



SECDELBAY INST 5100.47

## SECTOR INSTRUCTION 5100.47

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH  
PROGRAM

Ref: (a) Occupational Safety and Health Act of 1970, 29 U.S.C. § 668  
(b) Occupational Safety and Health Programs for Federal Employees, Executive Order 12196  
(c) Safety and Environmental Health Manual, COMDTINST M5100.47  
(d) Marine Safety Manual, COMDTINST M16000.6 VOL 1, CH 10  
(e) Medical Manual, COMDTINST M6000.1 (Series)  
(f) Occupational Safety and Health Standards for General Industry, 29 CFR 1910  
(g) Occupational Safety and Health Standards for Maritime, 29 CFR 1915  
(h) Occupational Safety and Health Standards for Construction, 29 CFR 1926  
(i) Basic Program Elements for Federal Employee OSH Programs and Related Matters, 29 CFR 1960

1. **PURPOSE AND BACKGROUND.** The purpose of this instruction is to establish guidelines for the Safety and Environmental Health (SEH) Program at Sector Delaware Bay. The references (a-i) delegate authority and provide guidance for the safety of personnel. All Coast Guard employees have a basic right to a safe and healthful workplace, a right reinforced by Commandant and Sector Delaware Bay policy. To this end, Sector Delaware Bay supports these rights by implementing integrated SEH programs, including establishing a dedicated Safety Manager to facilitate the creation of a safe environment for its members, and establishing a systematic approach to carry out these duties and responsibilities.
2. **DIRECTIVES AFFECTED.** None.
3. **DISCUSSION.** This instruction systematically outlines the processes by which the SEH program will support Sector Delaware Bay missions and personnel.

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH PROGRAM

4. **ACTION.** The enclosures to this instruction detail the SEH Program at Sector Delaware Bay. It is the responsibility of all Sector personnel to ensure the SEH Program is implemented including constant adherence to Sector safe work practices. The safety staff will provide technical assistance in support of this effort. In recognition of the diversity of missions at Sector Delaware Bay, subordinate units, units with their own OPFACs, shall develop subordinate unit-specific direction for many of the programs discussed in this instruction. Where template instructions have been completed in this instruction, they apply to the Sector, *per se*, not to subordinate units, unless otherwise noted. Subordinate units shall develop local direction, using the completed Sector instruction as a guide.
5. **STRATEGIC PLAN.** Effective SEH program management requires a systematic approach to identify, evaluate, prevent, and control workplace hazards. Although compliance with Commandant's policies and federal law is an important objective, the best programs look beyond specific requirements of law to address all hazards. Safety management is considered an ongoing process and is integrated into all unit operations. Responsibility must be defined and clear goals established and communicated. The four elements discussed below are crucial in this process. The Sector action plan to support our SEH program is outlined in Table 1.
  - a. **Command Commitment and Personnel Involvement:** These are complementary. Command commitment provides the motivating force and the resources for organizing and controlling activities within the Sector organization. In an effective program, leadership regards safety and health as a fundamental value of the organization and applies its commitment to safety and health protection with as much vigor as to other organizational purposes. Personnel involvement provides the means through which workers develop and/or express their own commitment to safety and health protection, for themselves and their co-workers.
  - b. **Worksite Analysis:** This involves a variety of worksite examinations, to identify not only existing hazards, but also conditions and operations in which changes might occur to create hazards. Failure to recognize a hazard due to failure to examine the worksite is a sure sign that safety and health policies and/or practices are ineffective. Effective management and supervision actively analyzes duties and worksites, to anticipate and prevent harmful occurrences.
  - c. **Hazard Prevention and Control:** Prevention and control activities are triggered by a determination that a hazard or potential hazard exists. Where feasible, hazards are prevented by effective design of the worksite or operation. Where it is not feasible to eliminate hazards, they are controlled to prevent unsafe and unhealthful exposure. Elimination or control is accomplished in a timely manner, once a hazard or potential hazard is recognized. In all cases, control strategies must be chosen in the following order of priority: engineering to eliminate the hazard, administrative actions to reduce exposure, and personal protective equipment (PPE) to reduce the effect of exposure.

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH  
PROGRAM

- d. Safety and Health Training: Training addresses the technical skills and the safety and health responsibilities of all personnel concerned: active duty, civilian, reserve, and auxiliary. It is most effective when incorporated into other training about mission performance and specific work practices. Its complexity depends on the size and complexity of the workplace and the nature of the hazards and potential hazards present.

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH PROGRAM

Table 1: Strategy to Support Sector Delaware Bay's Safety and Environmental Health Program

Critical Success Factors	Key Processes	Measures of Effectiveness and Example Indicators
Command Commitment & Personnel Involvement	Establish and communicate a sector safety and environmental health policy.	The command has established a written safety policy and has informed all personnel of the policy. <i>Indicators - Written Command Policy, Pre-Mishap Plan, Facility Emergency Action Plan, etc.</i>
	Appoint a sector safety officer and safety manager.	The command has appointed a safety officer and full-time safety manager who is responsible for implementing the command policy and overseeing the safety and environmental health program. <i>Indicators - Designation Letter(s), Organizational Policies, etc.</i>
	Adequate resources are available to properly support the safety and environmental health program.	The safety manager has an operational budget and the authority to conduct periodic worksite assessments, provide required training and correct identified hazards. <i>Indicators – Unit Budget, Organizational Policies, etc.</i>
	Safety and environmental health management is considered a line rather than a staff responsibility.	Management of safety and environmental health programs is conducted at multiple organizational levels. Safety coordinators and other subordinate safety/environmental health personnel coordinate unit level program management with the safety manager. <i>Indicators - Safety &amp; Health Committee, Mishap Reporting, etc.</i>
	Sector command cadre is involved and participates in safety and environmental health issues.	The command establishes safety and health goals and participates in safety committees and periodic reviews of safety programs. Command policy is revised as needed. <i>Indicators - Safety Committee Minutes, Program Review Activities, etc.</i>
Worksite Analysis	A comprehensive, baseline safety and environmental health assessment (MLC SMART visit or equivalent) has been conducted within the last three (3) years.	Hazards identified during the baseline assessment are corrected in a timely manner. Results of assessments are considered when developing command policies and performance goals. <i>Indicators - Outstanding HCNs, Repeat HCNs, Written Command Policies Current, etc.</i>
	Periodic self-assessments are performed by qualified unit personnel.	Unit self assessments are conducted at least annually to identify safety & environmental health hazards. Personnel conducting the assessments have been trained in hazard identification and control procedures. <i>Indicators - Documented Unit Self-inspections, Use of Unit Safety Assessment Tool, Unit Safety Coordinator Training, etc.</i>
	The unit has established a hazard reporting and correction procedure.	The unit has a process to correct identified hazards. Written documentation of hazard abatement activities is maintained, including a formal reporting process. <i>Indicators - Work Order System, HCN Responses, Unit Records, etc.</i>
	Effective job hazard analysis is performed. Mishaps are investigated to determine root causes.	Job hazard analyses have been conducted for routine worksite processes and identified hazards have been mitigated through the use of appropriate control measures (engineering, administrative and personal protective equipment). Unit mishaps are properly reported and investigated to identify underlying causes. Contributing factors are immediately corrected and findings are integrated into the unit's safety policy as needed. <i>Indicators – Job Hazard Analyses, Personal Protective Equipment Hazard Assessments, Use of E-Mishap System, Periodic Self-Assessments, etc.</i>
	Operational Risk Management (ORM) and Crew Endurance Management (CEM) processes are integrated into unit procedures.	Operational Risk Management processes are routinely utilized by unit personnel conducting high-risk and non-routine operations. Risk factors and available control measures are considered during operational/task planning. Crew Endurance Management principles are considered during the risk assessment process. <i>Indicators - Use of ORM models, CEM implementation, etc.</i>

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH PROGRAM

Hazard Prevention & Control	Required safety and environmental health programs have been established and implemented.	Written unit policies and procedures have been established for all required programs. Program implementation is comprehensive and effective. <i>Indicators – Workforce Understands and Uses Written Programs, Organizational Policies, Written Procedures, etc.</i>
	Feasible hazard controls have been implemented to reduce risk to personnel.	Hazard control policy follows the “Hierarchy of Controls”. 1) Appropriate engineering (technically & economically feasible) controls have been used when ever possible. 2) Administrative controls, including rules and safe work practices, have been instituted when engineering controls may not be entirely effective. 3) Personal protective equipment is utilized as a last line of defense. When needed, appropriate PPE is effectively utilized. <i>Indicators - Periodic Worksite Assessments, PPE Hazard Assessments, etc.</i>
	Occupational medical monitoring (OMSEP) is implemented for exposed personnel.	The unit utilizes baseline assessment findings and health risk assessment (HRA) results to ensure appropriate medical surveillance for exposed personnel. Enrollment is coordinated with MLC and medical personnel. Medical prescreening and periodic exams are properly documented and tracked. <i>Indicators – OMSEP Coordinator Designation, OMSEP Database Utilization, etc.</i>
	The unit is properly prepared for emergency situations.	The unit has written programs/procedures to ensure safe operations in the event of an emergency (e.g., fire, natural disaster, workplace violence, terrorist activity, etc.) Personnel have received training in emergency preparedness, and the preparation process is ongoing. <i>Indicators - Pre-Mishap Plan, Evacuation Training and Drills, etc.</i>
	Effective preventive maintenance is performed.	The unit conducts scheduled maintenance based on established policy, manufacturer’s recommendations, and identified hazards. Maintenance activities are appropriately logged and do not create safety hazards. <i>Indicators – Maintenance Schedules, Test Records, etc.</i>
Safety & Health Training	All personnel receive appropriate initial and periodic safety and health training appropriate for their assigned duties.	Initial and refresher safety and health training is provided to all personnel based on their job duties. Training requirements are established based on Commandant’s policy and/or federal requirements. Training includes information provided in formal classroom settings and informal or task-based instruction. <i>Indicators - Training Records, Performance Tests, Certifications, etc.</i>
	Safety managers and safety coordinators receive appropriate safety training.	Training is provided for safety managers and all safety coordinators. Training includes the supervisory and managerial aspects of their safety responsibilities. <i>Indicators – Individual Development Plans, Course Completion Certificates, Continuing Education Documentation, Drills and Exercises, etc.</i>
	Command cadre is trained in their safety and environmental health duties and responsibilities	Command staff members are aware of their responsibilities regarding safety and environmental health program management and have completed some training in this area. <i>Indicators – Training Records, etc.</i>
	Unit personnel have received training in emergency management and incident command.	Unit personnel expected to respond during emergencies and non-routine operations have been trained in their duties and incident command structure. <i>Indicators – Incident Command Training, Drills and Exercises, Demonstrate Knowledge of Command Policies, etc.</i>
	Personnel expected to conduct mishap investigations and root cause analysis have received appropriate training.	Safety managers and unit personnel expected to investigate mishaps and participate in mishap analysis boards have received appropriate training and/or have the necessary experience to conduct investigations. <i>Indicators – Training Certificates, Personnel Qualifications, Demonstrate Knowledge of Command Policies, etc.</i>

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH PROGRAM

6. **HUMAN RESOURCE MANAGEMENT.**

a. Duties and Responsibilities:

- (1) Sector Commander: The Sector Commander has the overall responsibility to ensure implementation of the Sector SEH program and shall appoint the Deputy Sector Commander as the Safety Officer (SO).
- (2) Sector Safety Officer (SO): The Sector SO has the direct responsibility for management of the Sector SEH program and shall appoint a Safety Manager (SM) who will have a direct responsibility for maintenance of the written program and program implementation. The SO shall establish an operating budget for the SM and shall chair the Sector Safety Committee meetings.
- (3) Safety Manager (SM): The SM position disestablishes the previous Safety and Occupational Health Coordinator (SOHC) at the Marine Safety Office and combines this position with that of the previous group-level Unit Safety Coordinator. The SM shall fulfill the following general job description and specific tasks as described below:

*Recognize, evaluate, and control a variety of hazards for all active duty, reserve, and civilian personnel within the Sector area of responsibility, ensuring the protection of the Coast Guard workforce, public health, and property, while incorporating directives and regulations set forth in references (a-i), and other safety and health policies. Responsibilities of this position include the promulgation of sector safety and environmental health directives, prevention and control of mishaps, fire protection, promotion of safety education, site safety analysis, competency with the Incident Command System (ICS), and implementation of a mishap reporting system, including incident analysis.*

- (a) Establish and manage a sector-wide safety and environmental health program and associated safety budget.
- (b) Provide support and oversight to Safety Coordinators and Safety Assistants in their roles within the sector or subordinate units.
- (c) Plan, organize, and administer a series of comprehensive assessments of outlying sector subunits, utilizing the Unit Safety Assessment Tool (USAT), a database, reference, and tracking tool available at <http://webapps.mlca.uscg.mil/USAT>.
- (d) Provide broad oversight of safety and environmental health training.
- (e) Provide broad oversight of sector/subordinate unit selection, purchase, and use of PPE.

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH PROGRAM

- (f) Serve as the permanent secretary and primary technical information source for the Sector Safety Committee. The SM will ensure the minutes are submitted to the Sector Commander for review. The SM shall schedule, arrange, and promulgate Sector Safety Committee plans and minutes. Significant issues that must be addressed prior to convening the safety committee shall be reported to the committee membership via email and briefed at the next meeting.
  - (g) Serve as Point-of-Contact (POC) and liaison for safety issues or tasking from District. The SM shall maintain effective communication and coordination with District, MLC(kse), and Area representatives on HAZWOPER; WMD; chemical, biological, radiological, and general safety issues.
  - (h) Assist departments and subordinate units with safety assessments and audits of area shipyards and competent persons to ensure regulatory compliance for Coast Guard personnel, in accordance with applicable confined space entry policies and regulations.
  - (i) Work closely with the Engineering Officer and engineering staff at Coast Guard facilities to control or eliminate unsafe conditions that arise from construction or modification of sector structures.
  - (j) Ensure all operational personnel are familiar with and utilize risk management techniques including Team Coordination Training, Risk Based Decision Making, and operational risk management tools such as the Green-Amber-Red (GAR) and Severity Probability and Exposure (SPE) models.
  - (k) Provide Crew Endurance Management (CEM) support for subordinate units while ensuring that annual endurance risk assessments are completed.
  - (l) Work with UPH housing officer and engineering staffs to abate and minimize health concerns related to housing such as mold, lead, asbestos, radon, and equipment.
  - (m) Develop and maintain the Facility Emergency Action Plan (FEAP) for the Philadelphia base. Assist subordinate units with development of FEAPs, as requested.
  - (n) Serve as Site Safety Officer or Assistant Safety Officer for incident responses within the Sector area of responsibility, as requested.
  - (o) Be familiar with common SEH-related instructions, standards, and references, and maintain a library of reference material relevant to sector and subordinate unit missions.
- (4) Safety Coordinators (SC):

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH PROGRAM

- (a) The Prevention, Response, and Logistics Departments and all Sector Delaware Bay units shall each designate a member with suitable background, training, and interest to serve as the collateral duty SC.
  - (b) The SC shall be sufficiently trained to carry out SEH responsibilities and shall be provided with sufficient time to accomplish these requirements. Each coordinator shall attend Unit Safety Coordinator "C" School and other pertinent safety training.
  - (c) Responsibilities include but are not limited to: assisting with SEH inspections and auditing safety equipment and training. The SC shall advise the Sector or subordinate unit training officer of SEH training needs, and monitor the status of required SEH training and Training Management Tool (TMT) documentation. The SC shall also assist, as requested, with unit mishap investigation and reporting requirements found in reference (c).
  - (d) During an incident or large-scale response requiring an Incident Command System (ICS) structure, a SC could be called upon to serve on the safety staff as an ICS Safety Assistant working alongside the SM, who may be serving as the ICS Safety Officer or Assistant Safety Officer.
- (5) Safety Committee: Sector Delaware Bay Safety Committee shall be comprised of:
- SO as Chair;
  - SM as recording secretary;
  - Department SCs as members;
  - At least one designated civilian employee representative.
  - Subordinate unit SCs. Subordinate unit SCs may be represented at the meeting via email input, if unable to attend.
- (a) The Safety Committee is intended to be a policy forming body for the command. The Safety Committee will assist the SM with the maintenance, revision, and approval of changes to this written program. Certain fact finding, investigations, and special projects may be assigned for action to other members of the command; but it shall be the responsibility of the designated members to formulate adequate command policy to protect personnel from safety and health hazards associated with the operations of the command. Sector units shall maintain pre-existing safety committees and follow similar guidelines for its membership and meeting schedules.
  - (b) The Safety Committee shall meet at least quarterly, unless the SO or SM requests an emergency meeting. Minutes shall be generated and reviewed by the Sector Commander and posted for review by all personnel. The command shall be notified at least three weeks in advance of non-emergency meetings of the Safety Committee. All military and civilian members of the command are



Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH PROGRAM

encouraged to attend these meetings, and supervisors shall make reasonable accommodations to allow attendance by interested persons.

- (c) The Safety Committee shall investigate mishaps, near misses, suspected acute overexposures to chemicals, and reports of unsafe conditions in accordance with references (c) and (d). The Committee will take appropriate action on recommendations forwarded through these investigations. The Safety Committee shall review assessments and survey reports from the Safety and Environmental Health Officer (SEHO) and SEH specialists at MLC (kse). The Committee may also review the past quarter's member hazardous condition notifications or other safety awareness tips or actions to informally or formally recognize Sector personnel for their safety achievements.
- (d) To ensure adequate input from all members of the command, the SM shall recommend periodic safety training topics that include topics required for all hands annually. The training, provided by the SM to each SC, shall allow each department or subordinate unit to conduct training in a timely fashion without large-scale meetings (see paragraph 8, Training). Each department or subunit shall solicit suggestions on improving the safety program to be discussed by the Safety Committee. The Safety Committee shall review plans for safety and environmental health-related training and recommend adjustments as necessary.
- (e) The Safety Committee shall ensure that input from affected departments and subordinate units is included in contract proposals.

**7. WRITTEN PROGRAM.**

- a. Sector Delaware Bay shall maintain, review, and update Sector written safety programs and safe work practices at least annually. Written programs shall be a part of the safety library and available to all hands upon request. Unless otherwise noted, written plans shall be specific to the Sector, *per se*. Subordinate units shall develop written plans that address their specific needs, using the Sector plans as examples. Subordinate units shall submit written programs to SM for comment and inclusion in the Sector safety library.
- b. Written programs will be distributed to units via a public folder and by CD-ROM, or other electronic, mode upon request. Paper copies will be issued upon the first distribution of the written program.
- c. Recommendations for improving or updating this instruction should be addressed to either the Sector Safety Committee or the Sector Safety Manager.

**8. TRAINING.**

- a. Safety and environmental health training shall be completed within the guidelines of the unit training program, and is the responsibility of the SM in coordination with the SC to

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH PROGRAM

manage. Completion of SEH training shall be monitored by the SM and documentation made available to the SEHO. The matrices found in Enclosure (1) contain Sector-required safety and environmental health training topics. A recommended list of professional development training for the SM is provided in Enclosure (2).

- b. Generic training packages shall be distributed to all SCs. Departments/subordinate units shall develop any additional training resources necessary to ensure local conditions, designations, responsibilities, and missions are adequately addressed. The SCs will report all completed training to the SM and provide a list of the topics covered, time and date training was given, and the instructor. The list of personnel will be given to the respective TMT coordinators for entry. The SM may attend training to maintain quality assurance and provide training, if requested.
9. **ASSESSMENTS.** The SM shall implement an annual inspection schedule. The SM shall inspect Sector departments, divisions, and subordinate units. The inspection shall include a review of the safety program, training records, a walk-through of spaces, and a review of the findings of MLC (kse) surveys. Discrepancies shall be recorded in USAT and tracked by the SM to ensure steps have been taken to abate any safety hazards.
10. **CHAIN OF COMMAND AND COMMUNICATION.**
  - a. The Sector SM is tasked with ensuring the day-to-day administration and effectiveness of Sector Delaware Bay SEH program. This requires that SM maintain open lines of communication with Sector departments and units that comprise the command. The SM shall include and coordinate with the proper safety person, department head, or Officer-in-Charge in regard to any discrepancies, inspections, training, mishaps, and other safety issues. The SM shall remain an overall coordinator and manager in regard to unit reports and messages (e.g., the SM shall be copied on mishap reporting from units, but not in the formal chain of review). The SM shall offer information and services to aid units in compliance with safety requirements.
  - b. SCs shall communicate directly with the Sector SM on any and all safety and environmental health issues. It is recommended that the SC include the department head, supervisor, or Officer-in-Charge on any correspondence with the SM.
11. **PROCESS EVALUATION AND IMPROVEMENT.** The overall safety program and processes outlined herein will be reviewed annually to identify areas for improvement.
12. **ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.** Environmental considerations were examined in the development of this instruction and have been determined to be not applicable.
13. **FORMS/REPORTS.** Discrepancies identified during unit self assessments shall be recorded in the USAT at the following intranet web site:  
<http://webapps.mlca.uscg.mil/USAT>.

Subj: SECTOR DELAWARE BAY SAFETY AND ENVIRONMENTAL HEALTH  
PROGRAM

D. L. Scott  
CAPT, US Coast Guard

- Encl: (1) Sector Safety and Environmental Health Training  
(2) Sector Safety Manager Training List  
(3) Sector Safety and Environmental Health Program Reference Library List  
(4) Asbestos Exposure Control Plan  
(5) Bloodborne Pathogen and Biohazard Decontamination Plan  
(6) Shore Confined Space Entry Program  
(7) Non-Shore Facility Confined Space Entry  
(8) Facility Emergency Action Plan  
(9) Hazard Communication Program  
(10) HAZWOPER Program  
(11) Hearing Conservation Program  
(12) Thermal Stress Program  
(13) Lead Management Program  
(14) Lockout/Tagout—Ashore  
(15) Motor Vehicle Safety  
(16) New Crewmember Safety and Health Orientation Program  
(17) Occupational Medical Surveillance and Evaluation Program (OMSEP)  
(18) Personal Protective Equipment  
(19) Integrated Pest Management  
(20) Weapons of Mass Destruction/Chemical, Biological, Radiological Safety  
(21) Pre-Mishap Plan  
(22) Radiation Detection Safety  
(23) Respiratory Protection Program  
(24) Operational Risk Management  
(25) Safe Work Practices  
(26) Shore Potable Water  
(27) Position Assignments  
(28) COMDT's Safety and Environmental Health Policy Statement  
(29) Occupational Safety and Health Protection For Members of the USCG



## SECTOR OCCUPATIONAL SAFETY AND HEALTH TRAINING

### Command Staff, Contingency Planning & Force Readiness (CP/FR), and Command Center (CC) Training Matrix

Training Category	References (Current Series)	Frequency	Notes	Date Given
Bloodborne/Biohazard	M6220.8 Chapter 5	initial, annual, as needed	<b>Required for All</b>	
Facility Emergency Action Plan	COMDTINST 5100.49	initial, annual as needed	<b>Required for All</b>	
Fire Safety	COMDTINST M5100.47; 29 CFR 1910.157	initial, annual	<b>Required for All</b>	
Hazard Communication	COMDINST 6260.21 Chap. 4; 29 CFR 1910.1200	initial, annual	<b>Required for All</b>	
HAZWOPER (including WMD/CBR Awareness topics)	COMDINST 3400.3; 6260.31; 29 CFR 1910.120(q)	annual	Awareness (CC), First Responder Ops (CP/FR) Incident Commander (Command Staff)	
Mishap	COMDTINST M5100.47 Chapter 3, Enclosures 14-16	annual, as needed	Supervisors, Division, Branch, and Department Heads	
Motor Vehicle Safety	COMDTINST M5100.47 Chapter 10	annual, as needed	<b>Required for All</b>	14NOV07
Operational Risk Management	COMDTINST 3500.3, 6260.31	annual, as needed	<b>Required for All</b>	
Slips, Trips & Falls	COMDTINST 6260.31	annual, as needed	<b>Required for All</b>	

<b>Prevention Department Training Matrix</b>
--

Training Category	References (Current Series)	Frequency	Notes	Date Given
Asbestos Exposure Control	COMDTINST M6260.16	initial, annual, as needed	All Marine Inspectors (MI's), Investigators (IO's), and PSC Boarding Members (PBM's)	
Benzene	COMDTINST 6260.21;29 CFR 1910.1028(j)(3)(I), 1200(h)(1)	initial, annual	All MI's, IO's, and PBM's	
Bloodborne/Biohazard	M6220.8 Chapter 5	initial, annual, as needed	<b>Required for All</b>	
Confined Space	COMDTINST M5100.47, M9000.6; 29 CFR 1910.146(g); 29 CFR 1915, COMDTNOTE 16000	annual, as needed	All MI's, IO's, and PBM's	
Facility Emergency Action Plan	COMDTINST 5100.49	initial, annual as needed	<b>Required for All</b>	
Fire Safety	COMDTINST M5100.47; 29 CFR 1910.157	initial, annual	<b>Required for All</b>	
Hazard Communication	COMDTINST 6260.21 Chap. 4; 29 CFR 1910.1200	initial, annual	<b>Required for All</b>	
HAZWOPER (including WMD/CBR topics)	COMDTINST 6260.31, 3400.3; 29 CFR 1910.120(g)	annual	Awareness (WWM), First Responder Ops (PSC, Container, Facilities, IO, MI)	
Hearing Conservation	COMDTINST M5100.47 Chapter 4	initial, annual	All MI's, IO's, and PBM's	
Heat/Cold Stress	COMDTINST M6260.17 Chapter 4	annual, as needed	All MI's, IO's, and PBM's	
Mishap	COMDTINST M5100.47 Chapter 3, Encl 14-16	annual, as needed	Supervisors, Division, Branch and Department Heads	
Motor Vehicle Safety	COMDTINST M5100.47 Chapter 10	annual, as needed	<b>Required for All</b>	14NOV07
Operational Risk Management	COMDTINST 3500.3; 6260.31	annual, as needed	<b>Required for All</b>	
Personal Protective Equipment	COMDTINST 6260.31; 29 CFR 1910.132-.138	annual, as needed	Mission Specific	
Respiratory Protection	COMDTINST M6260.2; ALCOAST 223/05	initial, annual, as needed	Mission Specific, Includes EEED	22JUL07
Slips, Trips & Falls	COMDTINST 6260.31	annual, as needed	<b>Required for All</b>	

<b>Response Department Training Matrix</b>
--

Training Category	References (Current Series)	Frequency	Notes	Date Given
Asbestos Exposure Control	COMDTINST M6260.16	initial, annual, as needed	Required if job = potential exposure	
Benzene	COMDTINST 6260.21; 29 CFR 1910.1028(j)(3)(I), 1200(h)(1)	initial, annual	All Pollution Investigators (PI's) and FOSCR's	6JUN07
Bloodborne/Biohazard	M6220.8 Chapter 5	initial, annual, as needed	<b>Required for All</b>	7FEB07
Confined Space	COMDTINST M5100.47, M9000.6; 29 CFR 1910.146(g); 29 CFR 1915, COMDTNOTE 16000	annual, as needed	All PI's, FOSCR's, and Boarding Team Members (BTM's)	7FEB07
Facility Emergency Action Plan	COMDTINST 5100.49	initial, annual, as needed	<b>Required for All</b>	
Fire Safety	COMDTINST M5100.47; 29 CFR 1910.157	initial, annual	<b>Required for All</b>	
Hazard Communication	COMDTINST 6260.21 Chap. 4; 29 CFR 1910.1200	initial, annual	<b>Required for All</b>	
HAZWOPER (including WMD/CBR topics)	COMDTINST 6260.31; 29 CFR 1910.120(q)	annual	First Responder Ops	14SEP07
Hearing Conservation	COMDTINST M5100.47 Chapter 4	initial, annual	Required if job = potential exposure	7FEB07
Heat/Cold Stress	COMDTINST M6260.17 Chapter 4	annual, as needed	All PI's, FOSCR's, and BTM's	14SEP07
Mishap	COMDTINST M5100.47 Chapter 3, Encl 14-16	annual, as needed	Supervisors, Division, Branch, and Department Heads	7FEB07
Motor Vehicle Safety	COMDTINST M5100.47 Chapter 10	annual, as needed	<b>Required for All</b>	14NOV07
Operational Risk Management	COMDTINST 3500.3; 6260.31	annual, as needed	<b>Required for All</b>	7FEB07
Personal Protective Equipment	COMDTINST 6260.31	annual, as needed	Mission Specific	14SEP07
Respiratory Protection	COMDTINST M6260.2C; ALCOAST 013/01	initial, annual, as needed	Mission Specific, Includes EEED	7FEB07
Slips, Trips & Falls	COMDTINST 6260.31	annual, as needed	<b>Required for All</b>	7FEB07
Trailer Operator	COMDTINST M5100.47	initial	Trailer Operators Only	

<b>Logistics Department Training Matrix</b>
---

Training Category	References (Current Series)	Frequency	Notes	Date Given
Asbestos Exposure Control	COMDTINST M6260.16	initial, annual, as needed	ENG Only	
Benzene	COMDTINST 6260.21; 29 CFR 1910.1028(j)(3)(I), 1200(h)(1)	initial, annual	ENG Only	
Bloodborne/Biohazard	M6220.8 Chapter 5	initial, annual, as needed	<b>Required for All</b>	
Confined Space	COMDINST 5100.47; 29 CFR 1910.146(g); 29 CFR 1915	annual, as needed	ENG Only	
Facility Emergency Action Plan	COMDTINST 5100.49	initial, annual as needed	<b>Required for All</b>	
Fire Safety	COMDTINST M5100.47; 29 CFR 1910.157	initial, annual	<b>Required for All</b>	
Forklift	29 CFR 1910.178	initial, annual	Forklift Operators Only	
Hazard Communication	COMDINST 6260.21 Chap. 4; 29 CFR 1910.1200	initial, annual	<b>Required for All</b>	
Hazardous Waste	COMDTINST M16478.1	initial, annual	HAZMAT Coordinators	
HAZWOPER	COMDINST 6260.31; 29 CFR 1910.120(q)	annual	Awareness (Admin, Finance), First Responder Ops (ENG)	
Hearing Conservation	COMDTINST M5100.47 Chapter 4	initial, annual	ENG Only	
Heat/Cold Stress	COMDTINST M6260.17 Chapter 4	annual, as needed	Required if job = potential exposure	
Lead	COMDTINST 6260.21, 29 CFR 1910.1200(h)(1), .1025(l)	initial, annual	Gunner's Mates/ Small Arms Instructors, ENG	
Lockout/Tagout	29 CFR 1910.147	Initial, annual	ENG Only	
Mishap	COMDTINST M5100.47 Chapter 3, encl 14-16	annual, as needed	Supervisors, Division, Branch, and Department Heads	
Motor Vehicle Safety	COMDTINST M5100.47 Chapter 10	annual, as needed	<b>Required for All</b>	14NOV07
Operational Risk Management	COMDTINST 6260.31	annual, as needed	<b>Required for All</b>	
Personal Protective Equipment	COMDTINST 6260.31	annual, as needed	Mission Specific	
Respiratory Protection	COMDTINST M6260.2;	initial, annual, as needed	Mission Specific, Includes EEBD	
Slips, Trips & Falls	COMDTINST 6260.31	annual, as needed	<b>Required for All</b>	
Trailer Operator	COMDTINST M5100.47	initial	Trailer Operators Only	

<b>Small Boat Station Training Matrix</b>
---

Training Category	References (Current Series)	Frequency	Notes	Station					
				PH	MI	BL	AC	CM	IR
Asbestos Exposure Control	COMDTINST M6260.16	initial, annual, as needed	Required if job = potential exposure						
Benzene	COMDTINST 6260.21; 29 CFR 1910.1028(j)(3)(I), 1200(h)(1)	initial, annual	Required if job = potential exposure						
Bloodborne/Biohazard	M6220.8 Chapter 5	initial, annual, as needed	<b>Required for All</b>	21 OCT 07					
Confined Space	COMDTINST M5100.47, M9000.6; 29 CFR 1910.146(g); 29 CFR 1915, COMDTNOTE 16000	annual, as needed	Required if job = potential entry/work		16 JAN 08		23 JAN 08	20 FEB 08	
Facility Emergency Action Plan	COMDTINST 5100.49	initial, annual, as needed	<b>Required for All</b>	17 DEC 07					
Fire Safety	COMDTINST M5100.47; 29 CFR 1910.157	initial, annual	<b>Required for All</b>						
Hazard Communication	COMDTINST 6260.21 Chap. 4; 29 CFR 1910.1200	initial, annual	<b>Required for All</b>	17 NOV 07	16 JAN 08		23 JAN 08	20 FEB 08	
HAZWOPER (including WMD/CBR topics)	COMDTINST 6260.31; 29 CFR 1910.120(q)	annual	First Responder Ops	28 DEC 07	16 JAN 08		23 JAN 08	20 FEB 08	
Hearing Conservation	COMDTINST M5100.47 Chapter 4	initial, annual	Required if job = potential exposure						
Heat/Cold Stress	COMDTINST M6260.17 Chapter 4	annual, as needed	<b>Required for All</b>			29 JUN 05			
Mishap	COMDTINST M5100.47 Chapter 3, Encl 14-16	annual, as needed	Supervisors, Division, Branch, and Dept Heads						
Motor Vehicle Safety	COMDTINST M5100.47 Chapter 10	annual, as needed	<b>Required for All</b>	28 DEC 07					
Operational Risk Management	COMDTINST 3500.3; 6260.31	annual, as needed	<b>Required for All</b>						
Personal Protective Equipment	COMDTINST 6260.31	annual, as needed	Mission Specific		16 JAN 08		23 JAN 08	20 FEB 08	
Respiratory Protection	COMDTINST M6260.2C; ALCOAST 013/01	initial, annual, as needed	Mission Specific, Includes EEED	15 NOV 07					
Slips, Trips & Falls	COMDTINST 6260.31	annual, as needed	<b>Required for All</b>						
Trailer Operator	COMDTINST M5100.47	initial	Trailer Operators Only						



<b>Cutter Training Matrix</b>
-------------------------------

Training Category	References (Current Series)	Frequency	Notes	Station				
				CAP	CLT	MAK	IBS	FIN
Asbestos Exposure Control	COMDTINST M6260.16	initial, annual, as needed	Required if job = potential exposure					
Benzene	COMDTINST 6260.21; 29 CFR 1910.1028(j)(3)(I), 1200(h)(1)	initial, annual	Required if job = potential exposure					
Bloodborne/Biohazard	M6220.8 Chapter 5	initial, annual, as needed	<b>Required for All</b>	24 JAN 08	22 JAN 08			
Confined Space	COMDTINST M5100.47, M9000.6; 29 CFR 1910.146(g); 29 CFR 1915, COMDTNOTE 16000	annual, as needed	Required if job = potential entry/work					
Vessel Emergency Action Plan	COMDTINST 5100.49	initial, annual, as needed	<b>Required for All</b>				19 MAR 07	19 MAR 07
Fire Safety	COMDTINST M5100.47; 29 CFR 1910.157	initial, annual	<b>Required for All</b>					
Hazard Communication	COMDTINST 6260.21 Chap. 4; 29 CFR 1910.1200	initial, annual	<b>Required for All</b>					3 DEC 07
HAZWOPER (including WMD/CBR topics)	COMDTINST 6260.31; 29 CFR 1910.120(q)	annual	First Responder Ops					3 DEC 07
Hearing Conservation	COMDTINST M5100.47 Chapter 4	initial, annual	Required if job = potential exposure					
Heat/Cold Stress	COMDTINST M6260.17 Chapter 4	annual, as needed	<b>Required for All</b>					
Mishap	COMDTINST M5100.47 Chapter 3, Encl 14-16	annual, as needed	Supervisors, Division, Branch, and Dept Heads					
Motor Vehicle Safety	COMDTINST M5100.47 Chapter 10	annual, as needed	<b>Required for All</b>					
Operational Risk Management	COMDTINST 3500.3; 6260.31	annual, as needed	<b>Required for All</b>					
Personal Protective Equipment	COMDTINST 6260.31	annual, as needed	Mission Specific					
Respiratory Protection	COMDTINST M6260.2C; ALCOAST 013/01	initial, annual, as needed	Mission Specific, Includes EEBD				28 SEP 07	
Slips, Trips & Falls	COMDTINST 6260.31	annual, as needed	<b>Required for All</b>					



## **SECTOR SAFETY MANAGER TRAINING LIST**

### **IMPORTANT SAFETY MANAGER TRAINING.**

- Safety Manager Course
- Unit Safety Coordinator Course

### **GENERAL MILITARY TRAINING.**

- Introduction to Incident Command System (ICS-100)
- Incident Command System for Single Resources and Initial Action Incidents (ICS-200)
- Intermediate Incident Command System for Expanding Incidents (ICS-300)
- Advanced Incident Command System Command and General Staff (ICS-400)
- Introduction to the National Incident Management System (IS-700)
- Introduction to National Response Plan (IS-800)
- Incident Command System Safety Officer Course (S-404 or similar)
- Team Coordination Training

### **USEFUL TECHNICAL COURSES.**

- Coastal Oil Spill Course
- Driver Improvement Program or Defensive Driver Course (instructor or student training)
- Cardiopulmonary Resuscitation (CPR) training and certification maintenance
- Shore Facility Confined Space Entry Course
- Shipyard Competent Person Course
- Respiratory Protection training
- Hazardous Waste Operations and Emergency Response (HAZWOPER) Train-the-Trainer
- CG HAZWOPER First Responder Operations (annually)
- Weapons of Mass Destruction First Responder Awareness (annually)
- Fire Protection and Life Safety Code training
- Electrical Safe Work Practices
- Collateral Duty Course for Other Federal Agencies (OSHA 0601)
- Crew Endurance Management Practitioner



## **FREQUENTLY USED SAFETY AND ENVIRONMENTAL HEALTH INSTRUCTIONS, STANDARDS, AND REFERENCES**

1. Personnel Manual, Chapter 9 Pregnancy in the Coast Guard (COMDTINST M1000.6A)
2. Child Development Services Manual (COMDTINST M1745.15)
3. Coast Guard Diving Policies and Procedures Manual (COMDTINST M3150.B)
4. Coast Guard Air Operations Manual (COMDTINST M3710.1E)
5. Coast Guard Helicopter Rescue Swimmer Manual (COMDTINST M3710.4B)
6. Coast Guard Food Service Manual (COMDTINST M4061.5)
7. Shipboard Regulation Manual (COMDTINST M5000.7)
8. Safety and Environmental Health Manual (COMDTINST M5100.47)
9. Shore Facility Emergency Action Plans (COMDTINST M5100.49)
10. Medical Manual (COMDTINST M6000.1C)
11. Prevention of Bloodborne Pathogen Transmission (COMDTINST M6220.8)
12. Food Service Sanitation Manual (COMDTINST M6240.4A)
13. Water Supply and Waste Water Disposal Manual (COMDTINST M6240.5)
14. Asbestos Exposure Control Manual (COMDTINST M6260.16A)
15. Coast Guard Cutter Heat Stress Program Manual (COMDTINST M6260.17)
16. Technical Guide: Practices for Respiratory Protection (COMDTINST M6260.2D)
17. Ordnance Manual (COMDTINST M8000.2C)
18. Naval Engineering Manual (COMDTINST M9000.6E)
19. Housing Manual (COMDINST M11101.13D)
20. Coatings and Color Manual (COMDTINST M10360.3C)
21. Rescue and Survival Systems Manual (COMDTINST M10470.10E)
22. Electronics Manual (COMDTINST M10550.25A)
23. Civil Engineering Manual (COMDTINST M11000.11A)
24. Tower Manual (COMDTINST M11000.4A)
25. Motor Vehicle Manual (COMDTINST M11240.9C)
26. Aviation Life Support Systems Manual (COMDTINST M13520.1B)
27. Marine Safety Manual (COMDTINST M16000.6 VOL 1, CH 10)
28. Maritime Law Enforcement Manual (COMDTINST M16247.1D)
29. Hazardous Waste Management Manual (COMDTINST M16478.1B)
30. Team Coordination Training (COMDTINST 1541.1)
31. Weapons of Mass Destruction and Catastrophic Hazardous Material Releases (COMDTINST 3400.3B)
32. Crew Endurance Management (COMDTINST 3500.2)
33. Operational Risk Management (COMDTINST 3500.3)
34. Flight Safety for Non-Aircrew Coast Guard Personnel (COMDTINST 3700.1)
35. District Safety and Environmental Health Program (COMDTINST 5100.56)
36. Public Health and Communicable Disease Concerns Related to Coast Guard Operations (COMDTINST 6220.9A)
37. Typhoid Immunization of Active Duty Coast Guard Personnel (COMDTINST 6230.6)
38. Malaria Prevention and Control (COMDTINST 6230.5A)

39. Hepatitis A Immunizations and Prophylaxis (COMDTINST 6230.8A)
40. Asbestos, Lead, and Radon in Coast Guard Housing, (COMDTINST 6260.1A)
41. Hazard Communication for Workplace Materials (COMDTINST 6260.21B)
42. Polyurethane Coatings Exposure Control (COMDTINST 6260.30A)
43. Safety and Health Training for Emergency Response (COMDTINST 6260.31A)
44. Equipment Tag Out Procedure (COMDTINST 9077.1C)
45. Maritime Radiation Detection Program and Guidance for Utilizing Radiation Equipment During Vessel Boardings, Cargo Inspections, And Other Activities (COMDTINST 16600.2A)
46. Incident Management Handbook (COMDTPUB P3120.17)
47. Preventing Heat Casualties (COMDTPUB P6200.12)
48. Maintenance Assessment Guide for Coast Guard Housing (COMDTPUB P11101)
49. Preventive Maintenance Manual for Damage Control (TECH PUB 2006C)
50. Manual of Naval Preventive Medicine (NAVMED P-5010)
51. Naval Ships Technical Manual, NSTM
52. Occupational Safety and Health Act, OSH Act
53. Basic Program Elements for Federal Employee OSH Programs and Related Matters, 29 CFR 1960
54. OSHA General Industry Standards, 29 CFR 1910
55. OSHA Shipyard Standards, 29 CFR 1915
56. OSHA Longshoring Standards, 29 CFR 1918
57. OSHA Construction Standards, 29 CFR 1926
58. Hazardous and Solid Waste Amendments, 40 CFR, Parts 260-280
59. Lead-based Paint Prevent in Certain Residential Structures, 40 CFR 745
60. Asbestos, 40 CFR 763
61. U.S. Food and Drug Administration, 2005 Food Code
62. American National Standard for Safety Requirements for Powder-Actuated Fastening Tools, ANSI A-10.3-1995
63. American National Standard for Emergency Eyewash and Shower Equipment ANSI Z358.1-1998
64. Handbook for Public Playground Safety, CPSC
65. Installation of Sprinkler Systems, NFPA 13
66. Flammable and Combustible Liquids Code, NFPA 30
67. Spray Application Using Flammable and Combustible Materials, NFPA 33
68. National Electrical Code (and handbook), NFPA 70
69. Fire Doors and Other Opening Protectives, NFPA 80
70. Life Safety Code (and handbook), NFPA 101
71. Construction and Fire Protection of Marine Terminals, Piers, and Wharves, NFPA 307
72. Aircraft Rescue and Fire Fighting Services at Airports, NFPA 403
73. Aircraft Hangars, NFPA 409
74. International Building Code, IBC
75. International Mechanical Code, IMC
76. International Plumbing Code, IPC
77. Control of Communicable Diseases Manual
78. Industrial Ventilation: A Manual of Recommended Practice, ACGIH
79. The Noise Manual, AIHA

80. CHRIS Manual
81. NIOSH Pocket Guide to Chemical Hazards
82. NIOSH Respirator Selection Guide 2004
83. Emergency Response Guidebook
84. Sax's Dangerous Properties of Industrial Materials
85. Handbook of Compressed Gases, Compressed Gas Association, Inc.
86. Environmental Engineering, 5<sup>th</sup> Edition, 2003: Salvato, Nemerow and Agardy

MLC (kse) can be contacted for interpretation or advice and/or to provide copies or loan of these and other safety and environmental health related references.

## ASBESTOS EXPOSURE CONTROL PLAN



Picture of Fibrous Asbestos

- Ref: (a) OSHA Construction Industry Standard for Asbestos, 29 CFR 1926.1101  
(b) OSHA General Industry Standard for Asbestos, 29 CFR 1910.1001  
(c) EPA AHERA Regulations, 40 CFR 763  
(d) Asbestos Exposure Control Manual, COMDTINST M6260.16A  
(e) Marine Safety Manual, Vol. I, Chapter 10, COMDINST M16000.6  
(f) Medical Manual, Chapter 12, COMDINST M6000.1B

1. **GENERAL.** Sector Delaware Bay policy is to avoid exposure to asbestos. References (a-d) provide information on Coast Guard policy, occupational regulations, and occupational guidelines related to asbestos. According to reference (e), asbestos is primarily a concern in vessel engine rooms that predate 1972. Asbestos can also be present, however, in Coast Guard shore facilities and government housing. According to reference (d), commanders and housing officers should determine the applicability of this enclosure and use reference (d) as a guide.

2. **BACKGROUND.**

- a. Asbestos is a confirmed human carcinogen. Overexposure to airborne asbestos fibers can significantly increase the risk of lung cancer, asbestosis and mesothelioma. Asbestosis is a chronic lung disease that impairs breathing and increases the risk of serious illness or death from respiratory infection. Mesothelioma is a cancer of the tissue that surrounds the lungs. Onset of these serious illnesses may occur after a latency period of 5 to 40 years following initial overexposure to airborne asbestos fibers. The risk of developing one of these illnesses is directly related to the duration and extent of exposure to asbestos fibers.
- b. Asbestos has been used in a variety of products including: thermal insulation for boilers, furnaces and piping; asbestos cement products; fireproofing asbestos cloth; ceiling tiles; wall and floor materials; brake lining and various gasket materials. Intact and undisturbed asbestos materials do not pose a health risk. When asbestos containing material (ACM) is in good condition and is properly managed, the risk of asbestos related disease is minimal. However, when ACM is damaged, cut, sanded or deteriorated it may release asbestos fibers into the air and become hazardous. Marine inspectors and boarding teams should be aware of asbestos when conducting operations or inspections. Engine rooms on foreign vessels and machinery spaces following fires

are the most likely places that inspectors might encounter friable asbestos (easily crumbled or pulverized resulting in release of airborne asbestos fibers). Machinery spaces damaged by fire may not be entered until a qualified person, see reference (b), tests the space to determine what safe work practices are needed.

- c. Federal law requires the Coast Guard, as an employer, to maintain a safe and healthful working environment for its employees. Units must maintain a written asbestos management plan when asbestos exists within the unit or housing area.
- d. All materials in Sector Delaware Bay identified as containing asbestos shall not be disturbed by any member or contractor. The only exception to this policy is casualty repair work that has the written approval of the Sector Commander or personnel delegated this authority by the Sector Commander and are currently qualified in Emergency Response rip-out procedures.

3. **SUMMARY OF PREVENTION.**

- a. In the event damaged asbestos-containing material that poses a potential health risk is discovered, the Sector Safety Manager should be contacted to ensure a certified asbestos abatement contractor is used to remove the asbestos in question, before any work proceeds.
- b. The Sector Safety Manager, MLC detached Safety and Environmental Health Officer (SEHO) or MLC (kse) will provide assistance or guidance on asbestos-related issues.

4. **SUMMARY OF PREVENTION AND CONTROL MEASURES.** Essential elements of Sector Delaware Bay asbestos exposure prevention and control include:

- a. Sector Delaware Bay personnel shall follow the Unit Asbestos Management Plan contained in this enclosure. Sector subunits must develop similar management plans to minimize exposure and manage asbestos in place. This plan includes unit-level roles and responsibilities, inventory plan, labeling and notification requirements, repair, removal and disposal, and emergency response to asbestos containing material release.
- b. Education and Training. Sector personnel will be trained to understand asbestos hazards posed by facilities or by jobs and will be familiar with the responsibilities of the Asbestos Control Coordinator, Facility Coordinator / Engineer, and /or Housing Officer, as those responsibilities pertain to asbestos-containing materials. This training may be part of or separate from the Hazard Communications initial or annual training.
- c. The Sector's Occupational Medical Surveillance and Evaluation Program (OMSEP) Coordinators will address concerns, enrollment, and management of the OMSEP program for their respective department per reference (f). Questions regarding enrollment may also be referred to the Sector's Safety Manager and/or the detached SEHO.

Attachment: (1) SECTOR DELAWARE BAY ASBESTOS MANAGEMENT PLAN

Attachment: (1)

**SECTOR DELAWARE BAY ASBESTOS MANAGEMENT PLAN**

**Section 1**

*Roles and Responsibilities*

**1. Commanding Officer (CO) shall:**

- a. Prohibit the removal, repair, or disposal of asbestos containing material (ACM) by CG military and civilian personnel unless authorized by MLC (k).
- b. Notify the cognizant MLC (k) in coordination with the Detached Safety and Environmental Health Officer (SEHO) to conduct identification testing when a potential asbestos hazard to personnel is suspected.
- c. Implement an Asbestos Management Plan (AMP) in coordination with the Detached SEHO or MLC (k).
- d. Notify MLC (k) or the Detached SEHO of any identified ACM that is to be removed by a certified contractor.
- e. Retain a copy of the ACM hazardous waste records provided by MLC (v) or MLC (s) as required.
- f. Ensure that asbestos hazard awareness briefing is provided to individuals in CG-owned housing units undergoing major asbestos abatement work and to CG employees responsible for the maintenance of the units.
- g. Designate in writing an Asbestos Control Coordinator (ACC) if ACM is identified in their unit.

**2. Asbestos Control Coordinator:**

- a. Shall develop the unit's Asbestos Management Plan in coordination with either the Detached SEHO or MLC (kse).
- b. Shall maintain and update the inventory of identified ACM.
- c. The unit Asbestos Control Coordinator (ACC) is listed in Enclosure (27) Position Assignments.

**3. Facility Coordinators/Engineers shall:**

- a. Inform building occupants of asbestos hazards and how to notify him/her of any damaged or deteriorated ACM or Presumed Asbestos Containing Material (PACM).



- b. Initiate sampling of suspected materials by contacting the Detached SEHO.
- c. Ensure that identified or presumed ACM are labeled in accordance with this management plan.
- d. Submit required Shore Station Maintenance Record (SSMR) and track those records for work to remove or encapsulate any damaged or deteriorated ACM. Place in an emergency priority if the ACM material may pose a health risk to occupants or maintenance personnel.

4. **Building Occupants and Tenants shall:**

- a. Understand the asbestos hazards posed by their facilities as explained to them by the facility coordinator/engineer or by the unit's Asbestos Control Coordinator.
- b. Abide by all warning labels of identified or presumed ACM.
- c. Avoid removing, defacing, or obstructing labels; conducting unauthorized construction, maintenance, repair, removal or renovation of ACM or presumed ACM.
- d. Report to the facility coordinator or the ACC of any damaged or suspected material that may contain asbestos.

5. **Housing Officer shall:**

- a. Notify tenants of the presence, location and hazards of asbestos in their living quarters to include their rights and responsibilities as outlined under this management plan.
- b. Ensure that all ACM or presumed ACM in housing units are inspected annually for signs of damage or deterioration.
- c. Shall report any damaged or deteriorated ACM or presumed ACM to the facility coordinator or engineer using the Shore Station Maintenance Record (SSMR).
- d. Update the ERA Asbestos and Lead Database when identified ACM or presumed ACM when items are abated or encapsulated in place. Contact MLC (kse) if you need assistance.

**Section 2**

*Asbestos Inventory*

1. **INVENTORY.** Currently there is no identified asbestos containing material at the 1 Washington Ave. facility.

## **BLOODBORNE PATHOGEN AND BIOHAZARD DECONTAMINATION PLAN**



Ref: (a) OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030 (NOTAL)  
(b) Prevention of Bloodborne Pathogen Transmission, COMDTINST M6220.8  
(c) Medical Manual, COMDTINST M6000.1C

1. **GENERAL.** Sector Delaware Bay personnel routinely respond to medical emergencies and transport persons with serious injuries or life-threatening illnesses. These missions can result in direct or indirect exposure to blood and other potentially infectious materials ranging from equipment contaminated with body fluids to contaminated bandages, needles, and syringes. This instruction outlines situations that require biohazard decontamination and provides step-by-step procedures to ensure proper disinfection. It also contains a written Exposure Control Plan as required by reference (a) for each unit where exposure to bloodborne pathogens could occur.
2. **BACKGROUND.** Bloodborne pathogens are microorganisms that are present in human blood and capable of causing disease in humans. Infection can result following exposure to blood or other potentially infectious materials (OPIM) including semen, vaginal secretions, cerebral spinal fluid, amniotic fluid, and any body fluid contaminated with blood. Bloodborne pathogens include, but are not limited to Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV). Although reference (a) does not specifically include tears, vomit, urine, or feces not visibly contaminated with blood in its definition of OPIM, serious human diseases can be transmitted by these substances even in the absence of blood. While such transmissions are not covered by this instruction, all body fluids and wastes should be regarded as potentially infectious and should be approached using the same precautions used when dealing with blood.
3. **SUMMARY OF PREVENTION AND CONTROL MEASURES.** Essential elements of the prevention and control of diseases caused by bloodborne pathogens include:
  - a. Education and Training. Means by which workers are made more aware of the nature of bloodborne pathogens, activities that place members at-risk, and means to prevent disease transmission. This also includes risk management principles.
  - b. Personal Protective Measures. The principles of “universal precautions,” which means that all blood and/or body fluids are considered potentially infectious and require workers to undertake protective procedures. Protective procedures are multifaceted and staged, dependent on the nature and magnitude of exposure. Procedures include the wearing of

puncture-resistant gloves by all personnel in situations where blood and/or body fluids are present.

- c. Engineering Controls. Means by which to prevent, isolate or remove bloodborne pathogens (e.g., biohazard disposal from the workplace). This includes housekeeping, laundry, and waste disposal considerations.
- d. Medical management of exposed personnel including provision for post-exposure management of personnel who contact infectious blood and/or body fluids. Exposed personnel should immediately contact and proceed to the nearest clinic for testing.

4. **RISK MANAGEMENT PROCEDURES.**

- a. UNIVERSAL PRECAUTIONS shall be used by all members whenever the potential for exposure to bloodborne pathogens exists. Personnel shall adhere rigorously to the infection control precautions noted in this instruction to minimize risk of exposure to all blood and other body fluids, all of which shall be considered infectious materials. Engineering and work practice controls shall be used to eliminate or minimize employee exposure to infectious materials. Where occupational exposure remains after institution of these controls, personal protective equipment shall be used.

b. EXPOSURE CONTROL PLAN:

- (1) Exposure determination. The following job classifications are occupationally exposed to bloodborne pathogens:
  - (a) Medical Personnel (including Health Services Technicians and Medical Providers);
  - (b) Emergency Medical Technicians (EMTs);
  - (c) Security Personnel; and
  - (d) Firefighters.
- (2) The following are the tasks/procedures in which occupational exposure to bloodborne pathogens could occur:
  - (a) Medical laboratory sample collecting.
  - (b) Emergency medical response.
  - (c) Disposal of biohazard waste.

(3) Methods of compliance.

- (a) Universal precautions shall be observed to prevent contact with blood, tissue, etc. Universal precautions are defined as an approach to infection control, which treat all human blood and certain body fluids as if infected by HIV or other bloodborne pathogens.
  - 1) Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets, or on counters where blood or other potentially infectious materials are present. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited where there is a possibility of occupational exposure to bloodborne pathogens.
  - 2) Gloves are to be worn when it is anticipated that a member's hands may be in contact with blood or other potentially infectious materials, including touching contaminated items or surfaces. Gloves shall be located at appropriate sites for easy access. Hands shall be washed thoroughly (15 to 30 seconds of rigorous motion with soap under warm water) and immediately after possible contact with blood and/or body fluids as well as before putting on and taking off gloves. Gloves must fit properly and be of powder-free latex or vinyl material. In a health care setting the gloves should be changed each time a new patient is being treated. Gloves contaminated with blood or body fluid must be changed and disposed of as noted below. Masks, eye protection, or face shields shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated. Gowns and coveralls shall be worn in occupational situations. Once contaminated the gowns and coveralls shall be treated as contaminated materials and disposed of properly as per references (b) and (c). Plastic and rubberized aprons should be cleaned first by rinsing with soap and water and then disinfected using solution guidelines set forth in section 4.f.(1) of reference (b), or using similar disinfecting recommendations.
- (b) Work practice controls in place include:
  - 1) Hand washing facilities available for use and enforced for the control of bloodborne pathogens. When provision of hand-washing facilities is not feasible, provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.
  - 2) All contaminated sharps, equipment, tissue, specimens, etc., are handled as required by reference (a).
  - 3) Personal Protective Equipment is provided, maintained, and cleaned/disposed of as required by reference (a).

- 4) Splashing, spraying, etc., of potentially infectious material is minimized.
  - 5) Practices that may expose personnel to infectious materials (e.g., mouth pipetting/suctioning) are prohibited.
  - 6) All surfaces that are/may be contaminated with infectious materials are decontaminated as soon as possible.
- (c) Hepatitis B control. Hepatitis B vaccine is available to occupationally exposed personnel and in the event of exposure to a bloodborne pathogen. Medical examinations and follow-up care shall be given per reference (a) and (c).
- (d) Communication of hazards to employees. Warning labels and signs shall be posted per reference (a). All members and employees shall be trained in the provisions of reference (a) and this program at the time of initial assignment to tasks which may expose them to bloodborne pathogens and annually thereafter.
- (e) Record keeping. Medical and training records shall include the data required by reference (a).

**5. PERSONAL PROTECTIVE EQUIPMENT.**

- a. When there is potential/actual occupational exposure, provide appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or masks, eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. Personal protective equipment will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through to or reach work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.
- b. Ensure that personnel use appropriate personal protective equipment.
- c. Ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to personnel. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those personnel who are allergic to the gloves normally provided.
- d. Clean, launder, and dispose of personal protective equipment properly and at no cost to the member.
- e. Repair or replace personal protective equipment as needed to maintain its effectiveness.
- f. If blood or other potentially infectious materials penetrates a garment(s), the garment(s) shall be removed immediately.

- g. All personal protective equipment shall be removed prior to leaving the work area.
- h. When personal protective equipment is removed, it shall be placed in an appropriately designated area or container for storage, washing, decontamination, or disposal.
- i. Gloves. Gloves shall be worn when it can be reasonably anticipated that the personnel may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures; and when handling or touching contaminated items or surfaces. See 4.a.(3) of this instruction on methods of compliance for glove requirements.
- j. Disposable (single use) gloves such as surgical or examination gloves shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.
- k. Disposable (single use) gloves shall not be washed or decontaminated for re-use.
- l. Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibits other signs of deterioration or when their ability to function as a barrier is compromised.
- m. Make gloves available to all medical personnel.
- n. Do not discourage the use of gloves.
- o. Require that gloves be used for blood-work in the following circumstances:
  - (1) When personnel have cuts, scratches, or other breaks in his or her skin;
  - (2) When personnel judge that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative source individual; and;
  - (3) When personnel are receiving training in blood-work.
- p. Masks, eye protection, and face shields. Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated, and eye, nose, or mouth contamination can be reasonably anticipated.
- q. Gowns, aprons, and other protective body clothing. Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated.

6. **HOUSEKEEPING.**

- a. General. Ensure that the work site is maintained in a clean and sanitary condition. Determine and implement an appropriate written schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area.
- b. All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.
- c. Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures, immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials, and at the end of the work shift if the surface may have become contaminated since the last cleaning.
- d. Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, shall be removed and replaced as soon as feasible when they become overtly contaminated or at the end of the work shift, if they may have become contaminated during the shift.
- e. All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials shall be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.
- f. Broken glassware, which may be contaminated, shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dustpan, tongs, or forceps.
- g. Reusable sharps that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that requires personnel to reach by hand into the containers where these sharps have been placed.

7. **REGULATED WASTE.**

- a. Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:



- (1) Closable;
  - (2) Puncture resistant;
  - (3) Leak proof on sides and bottom; and
  - (4) Labeled or color-coded as bio-wastes or hazards.
- b. During use, containers for contaminated sharps shall be:
- (1) Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries);
  - (2) Maintained upright throughout use; and
  - (3) Replaced routinely and not be allowed to overfill.
- c. When moving containers of contaminated sharps from the area of use, the containers shall be:
- (1) Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping; and
  - (2) Placed in a secondary container if leakage is possible. The second container shall be:
    - (a) Closable;
    - (b) Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and
    - (c) Labeled or color-coded.
    - (d) Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose personnel to the risk of percutaneous injury.
    - (e) Other Regulated Waste Containment shall be placed in containers which are:
      - 1) Closable;
      - 2) Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
      - 3) Labeled or color-coded in accordance with paragraph 7; and
      - 4) Closed prior to removal to prevent spillage or protrusion of contents during

handling, storage, transport, or shipping.

(f) If outside contamination of the regulated waste container occurs, it shall be placed in a second container. The second container shall be:

- 1) Closable;
- 2) Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
- 3) Labeled or color-coded; and
- 4) Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

(g) Disposal of all regulated waste shall be in accordance with applicable regulations of the United States, States and Territories, and political subdivisions of States and Territories.

8. **LAUNDRY.**

- a. Contaminated laundry shall be handled as little as possible with a minimum of agitation.
- b. Contaminated laundry shall be bagged or containerized at the location where it was used and shall not be sorted or rinsed in the location of use.
- c. Contaminated laundry shall be placed and transported in bags or containers labeled or color-coded. When a facility utilizes Universal Precautions in the handling of all soiled laundry, alternative labeling or color-coding is sufficient if it permits all personnel to recognize the containers as requiring compliance with Universal Precautions.
- d. Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry shall be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.
- e. Ensure that personnel who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.
- f. When a facility ships contaminated laundry off-site to a second facility which does not utilize Universal Precautions in the handling of all laundry, the facility generating the contaminated laundry must place such laundry in bags or containers which are labeled or color-coded.

- g. All clinics are considered hazardous waste generators. Each health care facility must have a written protocol for the management of infectious waste which is consistent with reference (a), Federal, State, and local regulations.
- h. Maintain tracking documents that contain information concerning the type of infectious waste and quantity. Information must be kept for not less than five years.

Attachment: (1) SECTOR/VESSEL BIOHAZARD DECONTAMINATION PLAN

Attachment: (1)

**SECTOR/VESSEL BIOHAZARD DECONTAMINATION PLAN**

**ACTION:**

At the conclusion of missions where patient transport was performed, supervisors and/or watch captains shall question the crew to determine the likelihood that the vessel was contaminated with biohazardous wastes. Contamination shall be considered likely if:

- Bodily fluids have come in contact with vessel surfaces, rescue or medical equipment, or personnel.
- Medical personnel used or attempted to use any syringes, IV needles, or scalpels.

The following procedures shall be completed if the crew or supervisors suspect that vessel contamination was likely:

1. As soon as the contaminated vessel is completely shutdown, it will be immediately isolated. The crew shall brief the appropriate supervisor or watch captain on the type of exposure, possible locations of concentrated quantities of bodily fluids (e.g., on deck, on rescue equipment, on bulkheads or soundproofing), and any use of syringes, IV needles, or scalpels. The watch captain should obtain a confirmation from the Health Services Technician/EMT that the medical kits have been inventoried and ensure accounting of all used equipment.
2. The contaminated vessel will be isolated and no equipment removed until declared decontaminated by the supervisor or watch captain. Operations shall be informed that the vessel is in a CHARLIE status until the cleanup is complete.
3. All exposed crewmen shall perform the following steps (Exposed is defined as actual contact with any of the patient's bodily fluids):
  - a. Remove all clothing that has been exposed to any of the patient's bodily fluids; place in a plastic bag.
  - b. Shower immediately.
  - c. Bring exposed clothing to medical or other cleaning facility for sanitizing and cleaning.
  - d. Have personnel report to Medical for appropriate medical record entry. If direct skin contact was made, testing, and follow-up may be required.
4. The supervisor or watch captain shall assign personnel to complete the disinfection of vessel and equipment. The team leader shall ensure that the cleanup team is constantly protected from exposure, that no unprotected personnel are allowed near the vessel prior

to decontamination, and that all biohazardous wastes are properly removed. A Health Services Technician/Emergency Medical Technician (EMT) should be a team member, if available.

5. The decontamination team will assemble the following items for cleaning vessel surfaces and equipment and the team leader will ensure that the team is appropriately dressed out.
  - a. Swab and bucket of hot water (with 2 cups of bleach per gallon of water).
  - b. Paper towels.
  - c. Red biohazard bags (obtain from medical).
  - d. Disinfectant cleaner or equivalent.
  - e. Spray bottles.
  - f. Disposable non-permeable coveralls.
  - g. Sanitary disposable face mask.
  - h. Plastic face shield.
  - i. 18 mm latex gloves.

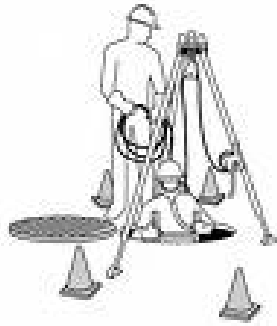
### **WARNING**

PERSONNEL REMOVING EQUIPMENT (RAFTS, SEATS, ETC.) SHALL EXERCISE EXTREME CARE WHEN EXTENDING ARMS OR LEGS IN AREAS NOT IN PLAIN SIGHT. USED NEEDLES, SYRINGES, AND SCALPELS MAY BE PRESENT, AND CAN CAUSE INJURY AND/OR SERIOUS INFECTION.

6. The decontamination team cleanup procedures are as follows:
  - a. Carefully inspect the vicinity where the patient was treated for evidence of exposure and the presence of any used medical equipment.
  - b. Remove any contaminated medical equipment, other portable equipment, rails, seats, or personal gear, etc., that is easily removed.
  - c. Spray all removed equipment and other applicable rescue equipment with virucidal cleaner and let it sit for 15 minutes before washing.
  - d. Liberally spray appropriate sections of the vessel with disinfectant cleaner. Mop deck with water and bleach solution; let the vessel sit for 15 minutes.
  - e. If cloth seats were exposed, remove seat cushions for immersion washing.
  - f. Reenter vessel and wipe down all surfaces with disinfectant cleaner and paper towels.

7. Once decontamination is complete, notify operations so that other maintenance checks and work may be performed as appropriate. The decontamination team shall complete the following:
  - a. Place all paper towels, gloves, disposable face masks and disposable coveralls used to clean the aircraft in the red biohazard bags and seal with rubber bands or ties.
  - b. Thoroughly clean all non-disposable items such as mops and face shields with hot water and bleach solution.
  - c. Transport all items in red biohazard bags to Medical for disposal.
  - d. The team leader shall make appropriate log entries.

## SHORE CONFINED SPACE ENTRY PROGRAM



Ref: (a) OSHA, Permit-Required Confined Space Regulations, 29 CFR 1910.146  
(b) Safety and Environmental Health Manual COMDTINST 5100.47, Chapter 6

1. **GENERAL.** Confined space entry is one of the most dangerous work evolutions that Coast Guard members and contractors are asked to perform. Working in confined spaces has many hazards and conditions not found in a typical work environment. Usually in a confined space fatality, the entrant either enters a confined space already containing a hazardous atmosphere or is overcome by a change in the atmosphere while working and they are unable to get out of the space before being incapacitated. Workers must consider that all confined spaces contain the most unfavorable and unsafe conditions and will NOT enter or work in these spaces until tests, evaluations, and other prescribed requirements of these procedures are preformed to ensure safe conditions exist prior to entry and are maintained during the entire work period.

### 2. **POLICY STATEMENT.**

- a. This enclosure applies to shore confined spaces aboard Sector Delaware Bay.
- b. Sector Delaware Bay departments and subordinate units shall determine the existence, and maintain a list, of unit “permit-required” confined spaces. The MLC (kse) staff can assist in determining whether a unit has permit-required confined spaces.
- c. Sector Delaware Bay departments and subordinate units shall ensure compliance with the provisions of this enclosure. Entry into confined spaces, as defined in references (a) and (b), shall only occur after evaluation of the hazards, control of and protection from those hazards, issuance of a Confined Space Entry Permit for permit-required confined spaces, and delineation of escape and/or rescue procedures and personnel. These evaluations shall be as specified in reference (a), with the exception of permissible oxygen levels. Oxygen levels for safe entry shall be 20.8% +/-0.2%.

**NOTE: Oxygen readings outside of the 20.8% +/- 0.2% range is an indication that either the oxygen has been consumed or displaced by other gases in the space. A 1% displacement of oxygen in a space = 10,000 ppm of “something” else in the space. Two significant causes of oxygen deficiency are the oxidation process (rusting of metal) and decay of organic materials.**

3. **DEFINITIONS.** The following definitions are given for clarification of the requirements:

- a. **Confined Space.** A confined space is one that:
  - (1) is large enough and so configured that an employee can bodily enter and perform assigned work;
  - (2) has limited or restricted means for entry or exit; and
  - (3) is not designed for continuous employee occupancy.
- b. **Permit-Required Confined Space.** A permit-required confined space meets the criteria of a confined space, as defined above, and also:
  - (1) Contains or has a potential to contain a hazardous atmosphere;
  - (2) Contains a material that has the potential for engulfing an entrant;
  - (3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
  - (4) Contains any other recognized serious safety or health hazard.
- c. **Permit-Required Confined Space under the Alternate Procedures.** The Alternate Program permits entry into a permit-required confined space without a permit and without many of the permit restrictions required for a “PERMIT-REQUIRED” entry. Alternate procedures are only allowed when the only hazard is an atmospheric hazard and a safe atmosphere can be managed by ventilation alone.
- d. **Non-Permit Confined Space.** A non-permit confined space is a space that does not contain, or, with respect to atmospheric hazards, have the potential to contain, any hazard capable of causing death or serious physical harm.
- e. **Confined Space Entry Checklist.** A guide for ensuring all requirements are considered and addressed prior to entering a confined space.
- f. **Confined Space Entry Permit.** A written or printed document detailing specific tests and entry requirements that must be met prior to entry into a permit space. The Confined Space Entry Checklist must be attached as a part of the Confined Space Entry Permit.



- g. **Hazardous Atmosphere.** An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one of or more of the following causes:

- (1) Atmospheric oxygen concentration other than 20.8% +/- 0.2% oxygen content indicates displacement by toxic vapors or gases, or the presence of oxygen producing sources that if unidentified or uncontrolled could pose a hazard to personnel.

**NOTE: Oxygen readings outside of the 20.8% +/- 0.2% range is an indication that either the oxygen has been consumed or displaced by other gases in the space. A 1% displacement of oxygen in a space = 10,000 ppm of “something” else in the space. Two significant causes of oxygen deficiency are the oxidation process (rusting of metal) and decay of organic materials.**

- (2) Atmospheric concentration of any substance greater than the OSHA Permissible Expose Limit (PEL) or the ACGIH Threshold Limit Value (TLV). The lower of those two occupational exposure limits shall be used.
  - (3) Flammable gas or vapor in excess of 10 percent of the lower flammable limit (LFL).
  - (4) Airborne combustible dust at a concentration that meets or exceeds its LFL.
- h. **Entrant.** An individual trained and authorized to enter a confined space to perform work. Entrants must be knowledgeable of the hazards that may exist in the space being entered and must be familiar with the signs or symptoms and consequences of exposure. Entrants must also know how to use ventilation equipment, personal protective equipment, and any other gear needed for safe entry. Entrants and attendants must agree on a communication method to keep the attendant aware of the entrant’s status, alert the attendant to any hazard observed or condition not allowed by the permit, and instantly obey any order to evacuate the space.
- i. **Attendant.** An individual assigned to monitor an entrant at all times while entering, performing work, and exiting a permit-required confined space. The attendant must be qualified as an entrant. Attendants shall monitor the entrant’s behavior while in the space, keep a count of the number of workers in the space, ensure that only authorized entrants access the space, keep in constant communication with all entrants, and protect entrants from external hazards. Attendant shall not enter a space to perform a rescue, unless properly trained and equipped to safely conduct the rescue **and** is properly relieved, and then only if relieved by a person trained, equipped, and designated in writing to do so.

- j. **Entry Supervisor.** The person responsible for verifying that acceptable entry conditions are present in a permit space where entry is planned, for ensuring all conditions of the permit are met, and for ensuring the adequacy of all conditions of entry operations. The entry supervisor is ultimately responsible for the safety of all individuals involved in entering a permit-required confined space. The entry supervisor is responsible for verifying that rescue services are available, and for terminating the entry and canceling the permit as required. An entry supervisor may double as an attendant, if properly trained and designated.
  - k. **Rescue Services.** Rescue services are personnel designated to rescue employees from permit spaces. This may be the unit's own personnel who are: designated in writing; meet the training and annual drill requirements of references (a) and (b); and have been notified and are available, or rescue services may be non-unit resources (commercial or fire department) that are appropriately trained (including annual drill) and have agreed to perform the service in a timely manner (usually within 2-4 minutes).
4. **ATMOSPHERIC TESTING REQUIREMENTS.** Atmospheric testing at Sector Delaware Bay shall be accomplished by a Competent Person. These personnel have been appropriately trained and designated in writing by the Commanding Officer. Testing shall be accomplished in accordance with reference (a), paragraph (d)(5) and appendix B of reference (b), Procedures for Atmospheric Testing.
5. **PERMIT-REQUIRED CONFINED SPACE ALTERNATE PROCEDURES.** Alternate Procedures may be used to allow an entry into a permit-required confined space, provided that **ALL** of the following conditions are met:
- a. The **ONLY** hazard posed by the permit-required confined space is actual or potential hazardous atmosphere;
  - b. Continuous forced air ventilation alone is sufficient to maintain the space safe for entry;
  - c. There is monitoring and inspection documentation demonstrating the conditions noted in paragraphs a. and b., above;
  - e. Entry to obtain data required by paragraph c., above, is accomplished following the full permit-required confined space entry process;
  - f. Data required is made available to entrants and;
  - g. Alternate program procedures are followed, as detailed in reference (a), paragraph (c)(5)(ii).
6. **TRAINING.** All confined space entry personnel shall be trained in accordance with the requirements set forth in the reference (a), paragraph (g) and reference (b), paragraph 6.H, ensuring that the Entry Supervisor has attended the Shore Facility Confined Space Entry and Rescue, class #500096, or equivalent commercial course.
7. **LISTING OF PERMIT-REQUIRED CONFINED SPACES.** Sector Delaware Bay has identified no permit-required confined spaces.

8. **LISTING OF NON-PERMIT CONFINED SPACES.** Sector Delaware Bay has a no non-permit confined spaces. Any work or conditions that have or will introduce significant potential for atmospheric hazards, such as hot work or large volumes of flammable liquids or gases, into a non-permit confined space, shall require the space to be temporarily reclassified as a Permit-Required Confined Space. Personnel conducting these types of operations shall follow permit-required confined space entry procedures prior to and during that work. Personnel are not authorized to enter confined spaces, except those authorized in writing, without following full permit-required confined space entry procedures.
9. **RESCUE SERVICES.** Rescue services must be ensured in advance. At Sector Delaware Bay these services are provided by Philadelphia Fire Department. The following is the minimum information that will be required when making rescue service arrangements:
  - a. Location and type of confined space
  - b. Anticipated duration of entry
  - c. Type of work to be accomplished
  - d. Point of contact and phone number
10. **IDENTIFICATION AND POSTING OF SHORE PERMIT-REQUIRED CONFINED SPACES.** All spaces shall be evaluated and those meeting the permit-required confined spaces criteria shall be posted with following warning signs: "DANGER—PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER. Access to the space shall be secured, e.g., a lock or similar securing mechanism, such as those requiring special tools to access (such as manhole covers).
11. **CIVILIAN CONTRACTOR REQUIREMENTS.** Civilian contractors shall comply with 29 CFR 1910.146. Contractors shall be advised of the locations and known hazards of confined spaces at Sector Delaware Bay. These requirements shall be included in the contract. Electrical utility contractors working on distribution lines and not working with other personnel or trades shall comply with 29 CFR 1926.956. Telecommunication contractors not working with other trades shall comply with 29 CFR 1910.268. See reference (b) Chapter 6.G for other specific guidance, requirements and restrictions regarding contractors.
12. **PROGRAM REVIEW.** As required by reference (a), all completed permits shall be reviewed on an annual basis or when there is reason to believe measures taken under the present permit program may not adequately protect personnel. The entry supervisor shall be responsible for performing the review, and shall be the single point of contact for reporting any new/additional hazards.
13. **LIST OF PERMIT-REQUIRED CONFINED SPACES.**
  - a. No spaces have been identified permit-required confined spaces under Sector Delaware Bay purview.

## NON- SHORE FACILITY CONFINED SPACE ENTRY



Ref: (a) Safety and Environmental Health Manual COMDTINST 5100.47, Chapter 6  
(b) OSHA, Safety and Health Standards for Shipyard Employment, 29 CFR1915  
(c) Coast Guard Marine Safety Manual, COMDTINST M16000.6, Chapter 10  
(d) Coast Guard Naval Engineering Manual COMDTINST M9000.6, Chapter 077  
(e) Naval Ships Technical Manual, NSTM 074 Vol III  
(f) Coast Guard Law Enforcement Manual, COMDTINST M16247.1D  
(g) Maintenance Instructions, Organizational, Intermediate, and Depot – Aircraft Fuel Cells and Tanks, NAVAIR 01-1A-35

1. **GENERAL.** Confined space entry is one of the most dangerous work evolutions that Coast Guard members and contractors are asked to perform. Working in confined spaces has many hazards and conditions not found in a typical work environment. While confined space entry presents the same basic hazards regardless of the actual site type or location, the standards/regulations differ based on the site/operation for which the entry is needed. Workers must consider that all confined spaces contain the most unfavorable and unsafe conditions and **MUST NOT** enter or work in these spaces until tests, evaluations, and other prescribed requirements of these procedures are performed to ensure safe conditions exist prior to entry and are maintained during the entire work period.

### 2. **POLICY STATEMENT.**

- a. This enclosure applies to non-shore facility confined spaces at Sector Delaware Bay and at non-Sector locations where Sector personnel work. Shore confined space entry at Sector Delaware Bay, is addressed separately in the Shore Confined Space Entry Program enclosure of this instruction (enclosure (6)).
- b. Below is a brief description of the various non-shore facility confined space entry programs and where the details of these programs reside. All affected personnel, supervisors of affected personnel, and personnel that may be affected shall review and become familiar with the standards/regulations below, as they pertain to their duties and responsibilities or that of their subordinates.

(1) **General** - The Coast Guard recognizes the various confined space hazards our men and women face on our cutters, boats, stations and aircraft. Our personnel encounter these hazards in performing law enforcement, conducting inspections and while

- performing maintenance. Reference (a), discusses these programs and their applicability. All Sector personnel who enter, or are involved with, or supervise personnel that enter or are involved with any confined spaces shall read, be familiar, and comply with reference (a).
- (2) **Cutters and Boats in Shipyards/Dockside Availability** - Shipyard work, dockside work, and boat maintenance in a shipyard setting must comply with reference (b). This standard addresses hot work, cold work, confined space entry procedures, and additional safety and health requirements for shipyards/shipyard employment. All personnel and their supervisors involved with, or responsible for, confined space, hot or cold work aboard Sector cutters or boats shall read, be familiar, and comply with the pertinent requirements in this regulation. See paragraph (3), below, for authority of and limitations on gas free engineers (GFE) and gas free engineering petty officers (GFEPO) aboard Coast Guard cutters at dockside or shipyard availabilities.
- (3) **Cutters and Boats (afloat)** - Confined space entry and hot and cold work on ships and boats afloat – not in dockside or yard availability – must follow references (d) and (e). These documents provide specific guidance, restrictions and duties pertaining to confined space, hot and cold work. In particular, they address what the shipboard gas free engineer (GFE/GFEPO) can and can not certify, prohibits the GFE/GFEPO from permitting spaces for contract personnel, and limits the GFE/GFEPO to permitting a space for Coast Guard or DOD civilian personnel for cold work only. All personnel and their supervisors involved with, or responsible for, confined space or hot or cold work aboard Sector cutters or boats shall read, be familiar, and comply with the pertinent requirements in these manuals.
- (4) **Prevention/Marine Inspections** - Personnel conducting marine inspections must comply with the requirements of reference (c). Particular attention must be paid to safe work practice (SWP) 100, Confined and Enclosed Spaces. Locally-developed, Officer in Charge Marine Inspection (OCMI) - approved safe work practices may be substituted for reference (c) SWPs, after careful risk analysis. The SWPs of reference (c) and reference (b) provide the basis for protecting marine inspection personnel in their work in shipyards and related marine inspection work. All Prevention/Marine Inspector personnel and their supervisors shall read, be familiar, and comply with the pertinent requirements in these manuals and regulations.
- (5) **Law Enforcement** – Coast Guard crews performing law enforcement sometimes encounter confined/unknown spaces that must be evaluated as part of the law enforcement process. References (d), (e), and (f) all play roles in determining if, how, and when law enforcement personnel gain access to confined spaces. All law enforcement personnel and their supervisors shall read, be familiar, and comply with the pertinent requirements in these manuals.

- c. Sector Delaware Bay departments and subordinate units shall ensure compliance with the provisions of this instruction. Entry into confined spaces, as defined in references (a) thru (g), shall only occur after evaluation of the hazards, control of and protection from those hazards, issuance of Confined Space Entry Permits for confined spaces, and delineation of escape and/or rescue procedures and personnel. These evaluations shall be as specified in references (a) thru (g), with the exception of permissible oxygen levels. **Oxygen levels acceptable for all confined space entries must be 20.8% +/-0.2%.**

**NOTE: Oxygen readings outside of the 20.8% +/- 0.2% range are indications that oxygen has been consumed or it has been displaced by other gases in the space. A 1% displacement of oxygen in a space = 10,000 ppm of “something” else in the space. Two significant causes of oxygen deficiency are the oxidation process (rusting of metal) and decay of organic materials.**

3. **TRAINING.** All confined space entry personnel shall be trained in accordance with the requirements set forth in reference (a), and as further described in references (b) thru (g), as appropriate, including any required drills.
4. **RESCUE SERVICES.** Rescue services must be ensured in advance, and properly equipped and onsite throughout the confined space entry or be able to arrive and start rescue within 4 minutes. At Sector Delaware Bay, these services are provided by Philadelphia Fire Department. Following is the minimum information that will be required when making rescue service arrangements:
  - a. Location and type of confined space
  - b. Anticipated duration of entry
  - c. Type of work to be accomplished
  - d. Point of contact and phone number
5. **CIVILIAN CONTRACTOR REQUIREMENTS.** Civilian contractors shall comply with 29 CFR 1910, 1915, or 1926, as appropriate. Contractors working on electrical distribution systems and telecommunication systems must comply with the OSHA regulations that specifically address these industries in 1910.268 and 1926.956). Contractors shall be advised of the locations and known hazards of confined spaces. These requirements shall be included in the contract, as will the requirement for contractors to brief the Coast Guard contract representative on conditions found in confined spaces entered by the contractors. See reference (a) for other specific guidance and restrictions regarding contractors.

6. **PROGRAM REVIEW.** As required by reference (a), all completed permits shall be reviewed on an annual basis or when there is reason to believe measures taken under the present permit program may not adequately protect personnel. The supervisor in charge of personnel conducting confined space entries shall be responsible for performing the review, and shall be the single point of contact for reporting any new/additional hazards. The Sector Safety Manager shall review completed permits as part of unit reviews.

## SHORE FACILITY EMERGENCY ACTION PLAN



- Ref: (a) Shore Facilities Emergency Action Plans, COMDTINST 5100.49  
(b) OSHA's Employee Emergency Plans and Fire Prevention Plans, 29 CFR 1910.38  
(c) OSHA 3088, How to Plan for Workplace Emergencies and Evacuations, 2001  
(Revised)
1. **PURPOSE.** The shore emergency action plans of Sector Delaware Bay are located in the Sector Delaware Bay Standard Operating Procedures (SOP).
  2. **ACTION.** All division and department heads shall ensure compliance by all Active Duty, Civilian, Reserve, and Auxiliary Coast Guard members while serving onboard Sector Delaware Bay.
  3. **DIRECTIVES AFFECTED.** None
  4. **BACKGROUND.** Emergency planning is inherent in the many missions conducted by Coast Guard units in support of public sector activities, as well as it many military, law enforcement and terrorist-related missions. References (a)-(c) discuss various aspects of emergency planning, with reference (a) being the most comprehensive document. All Sector Delaware Bay personnel shall follow the SOP when responding to emergency situations.



## HAZARD COMMUNICATION PROGRAM



Ref: (a) OSHA, Hazard Communication Standard, 29 CFR 1910.1200  
(b) Hazard Communication for Workplace Materials, Commandant Instruction 6260.21B

### 1. **GENERAL.**

- a. Sector Delaware Bay hazard communication program is based on the references (a) and (b), which require commands initiate and comply with a hazard communication program. These regulations were passed in response to many workers that were being exposed to chemicals or other toxins without proper training or knowledge of risks.
- b. This written safety program covers all Sector Delaware Bay personnel at the Philadelphia Base location using hazardous materials or who may be potentially exposed to hazardous materials. Sector Delaware Bay and each subunit is required to implement and maintain a hazard communication program.

### 2. **POLICY STATEMENT.** This program requires specific data collection, evaluation, training, and appointment of a Hazardous Materials Coordinator (HMC). It includes the following elements:

- a. An inventory of the hazardous materials which a member would reasonably expect to encounter in the workplace or that are likely to be encountered by unit personnel while conducting normal operations, [e.g., small boat ops, boarding's, etc., within their Area of Responsibility (AOR)];
- b. Material Safety Data sheets providing information regarding the hazards presented, protective measures to be taken, and emergency first aid procedures to be followed for each hazardous material;
- c. Information labels on all hazardous material containers;
- d. Specific training about how to use this information; and
- e. Appointment of a Hazardous Materials Coordinator.

3. **SCOPE.** This instruction applies to all Active Duty, Reserve, Civilian, and Auxiliary Coast Guard members while serving onboard Sector Delaware Bay at the Philadelphia Base location. Program guidelines are available for review by unit personnel and their designated representatives. These guidelines are located the DC Shop.

4. **REQUIREMENTS.**

- a. **Hazardous Materials Coordinator.** The Hazardous Materials Coordinator is designation in Enclosure (27) Position Assignments. The Hazardous Materials Coordinator is responsible for the following program elements:
- (1) **Inventory of Chemicals.** Maintaining a current list of all known and anticipated hazardous materials to which the members of this unit may be exposed in the performance of their work activities. It contains the following information: unit name, product name, manufacturer's name and address, FSN/NSN, and use location for the hazardous materials in the work place. More detailed information on each listed hazardous material can be obtained by reviewing its Material Safety Data Sheet (MSDS).
  - (2) **Material Safety Data Sheets (MSDSs).** A master file of Material Safety Data Sheets for all hazardous materials to which a member may be exposed will be maintained in a readily accessible location. The MSDS master file is located in the DC Shop. The Hazardous Materials Coordinator should be contacted if an MSDS is not available for a hazardous material. Marine safety personnel may refer to the Chemical Hazards Response Information (CHRIS) manual (COMDTINST M16465.12) for safety and health information.
  - (3) **Container Labeling.** All containers received for use must have labels which provide the following information:
    - (a) Name of the material as given on the MSDS, and;
    - (b) Warning of principle hazard(s) (e.g.; health, fire, reactivity, etc.), and;
    - (c) Effects of overexposure on target body organs (e.g. eye damage, skin irritation, liver cancer, etc.), and;
    - (d) Name and address or location of the manufacturer, supplier or a responsible party who can provide additional information.

**NOTE:** Clear spray bottles or containers used to draw hazardous material from a larger container for ready use **MUST** be labeled with the above information. Shop supervisors will be held accountable for this requirement.

- (4) Approval for Small Purchase of Hazardous Materials. The Hazardous Materials Coordinator shall document approval of the purchase of hazardous material in accordance with the Small Purchase Handbook COMDTINST M4200.13 (series). The HAZMAT Coordinator shall use the following guidelines:
- (a) An MSDS for the material to be acquired shall be onboard the unit prior to authorizing the purchase;
  - (b) Unit personnel shall have available and be trained in the use of all personal protective equipment required for use of the material specified in the MSDS.

5. **TRAINING.**

- a. Hazardous Materials Coordinator. The Hazardous Materials Coordinator shall attend the Unit Safety Coordinator Course or receive individualized training from the MLC detached Safety and Environmental Health Officer (SEHO).
- b. Employee Training. Each member will receive information and training on the elements of the hazard communication program. Personnel will receive this training from the Hazardous Materials Coordinator when first reporting aboard Sector Delaware Bay. This initial training will also be repeated when there is a change in members' duty assignment(s) involving new hazards or when a new hazard(s) becomes associated with the same duties. The HMC, Safety Manager, supervisors, or Training Officer shall provide annual refresher training for all personnel. The information and training shall cover:
  - (1) An overview of the elements of the Coast Guard Hazard Communication Program;
  - (2) Location and availability of the written hazard communication instruction, inventory list(s), and Material Safety Data Sheets;
  - (3) Contents of the Material Safety Data Sheets with emphasis on:
    - work operations where materials are used
    - hazards presented
    - safe work practices required
    - protective measures to be taken
    - emergency first aid procedures to be followed
  - (4) How to interpret labels.
- c. Documentation. Training, initial and refresher, shall be documented in the unit training record and personnel training records.

6. **NON-ROUTINE TASKS.** Supervisors shall ensure their personnel are trained in the hazardous of non-routine tasks, including the use of hazardous materials.
7. **ON-SITE CONTRACTORS.** The unit Hazardous Materials Coordinator will provide MSDS information to contractors whose employees perform work activities onboard Sector Delaware Bay if the hazardous material is provided by the Coast Guard or Coast Guard use of a hazardous material that may affect contractor personnel.
8. **RESPONSIBILITIES.** All unit personnel shall follow the direction provided in this policy.

**HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE  
(HAZWOPER)**



- Ref: (a) OSHA, Hazardous Waste Operations and Emergency Response Standard, 29 CFR 1910.120  
(b) COMDTINST 6260.31(series), Safety and Health Training for Emergency Response Operations

**1. GENERAL.**

- a. Nothing in this enclosure shall replace the provisions as prescribed in references (a) and (b). The information contained herein is provided as complimentary information to this guidance.
- b. With Sector Delaware Bay personnel potentially responding to a myriad of natural or manmade disasters (e.g., hurricanes, terrorism, pollution or hazmat releases), one of the first priorities is to ensure the safety and health of USCG personnel and other first responders. The National Contingency Plan (NCP) requires in 40 CFR 300.150 that response actions comply with the HAZWOPER regulations found in reference (a). In addition, reference (b) details how the USCG will incorporate the requirements of reference (a).
- c. First responders shall not exceed their level of training and experience. The first priority is SAFETY! First responders shall isolate the area, set a perimeter, deny access to non-authorized personnel, and make initial notifications to appropriate authorities. The agency responsible for local police response should normally be notified first, 911, and follow-on notifications should be made in accordance with guidance from each Regional Response Team and Area Committee or Area Contingency Plan.
- d. The first responder shall be prepared to provide general information about the location of the hazardous material involved, the nature of the problem, the person reporting the problem, the quantity of the release, other potential hazards, conditions on scene, what is needed on scene, and what has been done, or is being done, thus far to control the situation.

2. **TRAINING.** As prescribed by reference (b), all personnel assigned as potential emergency response team members (defined as First Responder Operational) shall have a minimum of 8 hours of hazardous waste and emergency response training. Personnel who may be tasked with the duties classified as a hazardous waste Emergency Response On-Scene Incident Commander shall have at least 24 hours of initial hazardous waste first responder operational level. Refresher training shall be of sufficient content and duration to maintain their competencies [see reference (a) for additional discussion]. The table below gives more specific requirements concerning who should have what type of training.

Unit	Personnel/Activities Requiring Training	HTC Modules						Other Levels		
		General FRA	General FRO	WMD FRA	WMD FRO	CLAN <sup>1</sup> FRA	Oil FRO	Incident Commander	Technical Specialist	Skilled Support Personnel
ALL	All Personnel (Active, Reserve, Auxiliarist)	Req'd								
	All Operational Forces	Req'd		Req'd						
	Command Center Staffs	Req'd		Req'd		Req'd				Req'd
	LE Boarding Personnel	Req'd	Req'd	Req'd		Optional				
	SAR and Body Recovery Teams	Req'd	Req'd	Req'd						
AIRSTA	Command and Operations Staff	Req'd		Req'd						
	Rescue Swimmer	Req'd	Req'd	Req'd						
Sector	Command Cadre	Req'd		Req'd			Req'd	Optional	Optional	Optional
	Response Personnel	Req'd	Req'd	Req'd	Optional	Optional	Req'd	Optional	Optional	Req'd
	Prevent ional Personnel	Req'd	Req'd	Req'd	Optional	Optional	Optional			
	Logistics Personnel/ Planning	Req'd		Optional						
Cutters	Command and Ops Staff	Req'd		Req'd						
	VOSS/SORS Personnel	Req'd	Req'd	Req'd			Req'd			
	R & A Teams	Req'd	Req'd	Req'd						
STA/ANT	Command Staff	Req'd		Req'd						
	Boat Crew	Req'd	Req'd	Req'd			Req'd			
Marine Safety Units/Dets	Command Cadre	Req'd	Req'd	Req'd			Req'd	Optional	Optional	Optional
	Response Operations	Req'd	Req'd	Req'd	Optional	Optional	Req'd	Optional	Optional	Req'd
	Inspections Personnel	Req'd	Optional	Req'd	Optional	Optional	Req'd			
	Admin Staff	Req'd		Optional						
	Investigations Personnel	Req'd	Req'd	Req'd			Req'd			
ICS Organization	Incident Commander	Req'd	Req'd	Req'd	Optional		Req'd	Req'd		
	Safety Officer	Req'd	Req'd	Req'd	Optional		Req'd		Req'd	Req'd
	Field Personnel	Req'd	Req'd	Req'd			Req'd		Req'd	Req'd

1 = Clandestine Drug Lab Awareness Training

### 3. **RESPONSE PHASES.**

- a. The Occupational Safety and Health Administration (OSHA) HAZWOPER regulations pertain to two broad phases or categories of response: (1) Emergency Response Operations (ERO); and (2) Post-Emergency Response Operations (P-ERO). ERO activities are those activities typically at the beginning of a response when there is some degree of urgency. P-ERO are defined as operations that are undertaken after the immediate threat is stabilized or eliminated and clean up has begun.
- b. During ERO and P-ERO in which Sector Delaware Bay personnel are part of a

documented organizational structure, the Incident Command System (ICS) and associated Site Safety Plans (SSP) shall be used to protect members' health. In addition to a SSP, a written Emergency Response Plan (ERP) must also be generated and implemented to handle anticipated emergencies prior to the beginning of EROs. An ERP is required for both ERO and P-ERO site operations. Elements of this document will form the SSP and may vary in size and detail.

- c. The ERP must address the following:
  - 1) Pre-emergency planning and coordination with outside parties.
  - 2) Personnel roles, lines of authority, training, and communication.
  - 3) Emergency recognition and prevention.
  - 4) Safe distances and places of refuge.
  - 5) Site security and control.
  - 6) Evacuation routes and procedures.
  - 7) Decontamination.
  - 8) Emergency medical treatment and first aid.
  - 9) Emergency alerting and response procedures.
  - 10) PPE and emergency equipment.
  - 11) Critique of response and follow-up.
- d. The ERP and SSP must be kept current during each operational period to ensure that all on-site activities and their associated hazards and risks have been recognized, evaluated, controlled to the extent possible, and that this information has been communicated to all members conducting operations, or working around the site. The ERP and SSP share the following elements: evacuation routes, decontamination procedures, emergency medical procedures, personal protective equipment (PPE), entry objectives, and general safety guidelines for personnel.

## HEARING CONSERVATION PROGRAM



Ref: (a) Safety and Environmental Health Manual COMDTINST 5100.47, Chapter 4  
(b) Medical Manual, COMDTINST M6000.1C, Chaps. 4 and 12  
(c) OSHA Occupational Noise Exposure Standard, 29 CFR 1910.95

1. **GENERAL.** High or intense noise levels can cause temporary or permanent hearing loss in personnel who are exposed to such noises without utilizing adequate protective measures. Noise in excess of prescribed limits is commonly found ashore in maintenance shops, afloat in machinery and propulsion spaces, and during certain evolutions such as Aids to Navigation, helo ops, and exercising of weapons. While the source of noise cannot always be removed or silenced, it is important that personnel be protected in order to reduce or eliminate hearing loss. When required, personnel must also be medically monitored in order to ascertain hearing threshold shifts. Close coordination between the Sector Safety Manager, Unit Safety Coordinator, medical personnel, and the MLC detached Safety and Environmental Health Officer (SEHO) is required to implement the requirements of references (a)-(c).

2. **DEFINITIONS.**

- a. DECIBEL (dB) is the unit of sound measurement. To approximate the human ear's response to noise, linear dB measurements are weighted (A-weighting scale) and are reported as dBA.
  - (1) The lowest sound that can be heard by a person with good hearing is given the Value of 0dB.
  - (2) Single hearing protection (plugs or muffs) is required for exposure to noise that is  $\geq 85$  dBA.
  - (3) Double protection (plugs and muffs) is required for exposure to noise that is  $\geq 105$  dBA.
  - (4) The MAXIMUM UNPROTECTED limit for IMPACT noise (loud noise of <1-second duration) is 140dB.
- b. THRESHOLD SHIFT is the change in hearing level as indicated by audiometric testing using the reference audiogram as a baseline for comparison with subsequent tests.



- (1) POSITIVE SHIFT indicates a potential LOSS of hearing.
- (2) NEGATIVE SHIFT indicates a potential GAIN in hearing.
- (3) SIGNIFICANT THRESHOLD SHIFT (STS) occurs when an audiogram reveals one or more of the following:
  - (a) An average of 10dB shift in either ear through the 2000-4000 Hz range.
  - (b) A 15dB shift in either ear at any frequency (2000-4000 Hz).

3. **MANAGEMENT RESPONSIBILITIES.**

- a. Identify, assess, and designate hazardous noise areas.
- b. Maintain a listing of all high noise areas, high noise power equipment and associated Sound Level Surveys.
- c. Obtain Sound Level Surveys in accordance with references (a) and (b). MLC (kse) maintains sound level measuring capability. Contact the detached SEHO to arrange for a sound level survey.
- d. Post “Hearing Protection Required” warning signs at accesses to spaces or by machinery that exceeds the maximum allowable limits (indicate decibel level and required protection level on the sign).
- e. Ensure personnel are provided appropriate personnel protective equipment.
- f. Ensure existing engineering and administrative controls are used to reduce or eliminate noise exposures when feasible.
- g. Ensure Occupational Medical Surveillance and Evaluation Program (OMSEP) is being fully administered at the local level.
  - (1) Ensure an OMSEP Coordinator is appointed and functioning at Sector Delaware Bay and all subunits in accordance with reference (b).
  - (2) Ensure Medical Treatment Facilities, in coordination with the detached SEHO:
    - (a) Enrolls for monitoring, persons exposed to hazardous noise environment as described in reference (b).
    - (b) Completes reference audiograms.

- (c) Administers annual audiograms to all exposed personnel in accordance with reference (b).
- h. Review new processes and procedures and develop engineering methods or administrative controls to abate noise where ever possible (i.e., actively seek low noise power tools, acoustical insulation in control booths, limit time in high noise areas).
- i. Provide Hearing Conservation Training. All personnel exposed to hazardous noise shall receive a minimum of one hour of initial Hearing Conservation Training and appropriate refresher training annually thereafter. Documentation of such training (i.e., attendance logs) shall be made part of each command's training records. The following are the minimum requirements of hearing conservation program training:
  - (1) Description of the symptoms, mechanism, and consequences of temporary and permanent hearing loss.
  - (2) Elements of the hearing conservation program.
  - (3) Proper use, care, selection, wearing, and maintenance of hearing protective devices.
  - (4) Identification of hazardous noise sources at the command and safe work practices to be used to minimize exposure to hazardous noise.
  - (5) Description of audiometric testing which will include explanation of audiometric test results and the procedures involved in testing.
- j. Require personnel to wear the properly fitted hearing protection when necessary.
  - (1) Make available the proper equipment for all personnel.
  - (2) Ensure equipment is clean and in good condition.
  - (3) Provide initial and annual instruction on the proper insertion and manner of wear for earplugs.
- 4. **EMPLOYEE RESPONSIBILITIES.**
  - a. Wear proper protective equipment in designated areas.
  - b. Inspect equipment and report any defective or damaged items to supervisors.
  - c. Protect hearing when at home and operating noisy equipment.

5. **BILLETS REQUIRING OMSEP ENROLLMENT FOR NOISE.** The following Sector Delaware Bay billets/jobs meet the requirements for enrollment into the OMSEP for noise based on the criteria in reference (b).
  - a. All Small Boat Operators.
  - b. Marine Inspectors and Boarding Team Members entering engine and machinery spaces.

## THERMAL STRESS



- Ref:
- (a) Preventing Heat Casualties, COMDTPUB P6200.12 (Series)
  - (b) Coast Guard Cutter Heat Stress Program, COMDTINST M6260.17
  - (c) Preventing Heat Casualties, COMDTINST M6200.9 (Series)
  - (e) OSHA, General Environmental Controls, 29 CFR 1910, Subpart J
  - (f) NIOSH, Working in Hot Environments, 1992 Reprint.
  - (g) Manual of Naval Preventive Medicine, NAVMED P-5010
  - (h) Marine Safety Manual (MSM) Volume I, Section 10, COMDTINST M16000.9
  - (i) American Conference of Governmental Industrial Hygienists. TLVs<sup>®</sup> and BEIs: Threshold Limit Values for Chemical Substances and Physical Agents, 2006.

### 1. **GENERAL.**

- a. Detailed safe work practices regarding thermal stress, both heat and cold, are provided in the Sector Delaware Bay Safe Work Practices Guide (enclosure 25). References (a) through (h) provide additional information and policy requirements.
- b. Supervisors shall ensure that personnel follow these safe work practices, emphasizing the importance of staying hydrated, taking the proper amount of time to acclimate to heat or cold, dressing appropriately, and scheduling work to minimize thermal stress.
- c. All members must be aware of the signs and symptoms of thermal stress, take proper action to prevent thermal stress and initiate appropriate medical attention for themselves or others if symptoms are experienced.

### 2. **HEAT STRESS.** Heat Stress is the potentially dangerous condition that occurs when the body is unable to regulate its temperature. There are three main classes of heat stress disorders.

- a. Heat cramps are painful and severe cramps of muscles, primarily in the extremities and abdominal wall and may experience profuse sweating. Treat by moving to a cool place and drinking plenty of water. Do not remain sedentary in direct heat, especially if feeling faint.
- b. Heat exhaustion is peripheral vascular collapse due to excessive water and salt depletion. It is caused by failure to replenish fluids lost in perspiration.

Symptoms include sweaty and pale or flushed, cool, clammy skin; fatigue; nausea; headache and possible dizziness, giddiness and/or vomiting. Heat exhaustion should be treated with rest in a cool place, loosening clothes, applying cool compresses, drinking water slowly and elevating feet 8 to 12 inches. Seek medical help at Sector Delaware Bay or emergency room. Call Emergency Medical Technician (EMT) if unable to get transportation.

- c. **HEAT STROKE** IS A MEDICAL EMERGENCY THAT REQUIRES HELP WITHOUT DELAY! It is the result of the collapse of the thermal regulatory mechanism. Body temperatures rise to critical levels of 104° F to 108° F. Symptoms can include stoppage of sweating; hot, dry skin; red, mottled or bluish skin; body temp > 104° F; confusion; loss of consciousness; and convulsions. Treat by calling a doctor or 911, moving the victim to a cool area while waiting for transportation to hospital, using cool water to soak clothes and body, and fanning the person. Do not give fluids if the victim is unconscious.  
**TRANSPORT TO A HOSPITAL IMMEDIATELY.**

- 3. **COLD STRESS.** Frostnip, frostbite, and Hypothermia are medical conditions associated with cold stress.
  - a. **Frostnip** is the first stage of frostbite when only the surface skin is frozen. Frostnip begins with itching and pain. The skin then blanches and eventually the area becomes numb. Treat by moving to a warmer area and following the treatment recommendations for frostbite. Consult a physician.
  - b. **Frostbite** is damage to tissues from freezing due to the formation of ice crystals within cells, rupturing the cells, and leading to cell death. Frostbite occurs when temperatures are below freezing. Symptoms include a burning sensation at first, whitened areas of skin, blistering, and the affected part may be cold, numb, and tingling. Treat by covering the frozen part, providing extra clothing and blankets, placing the affected part in warm water or covering with warm packs. Discontinue warming when part becomes flushed and swollen. Exercise part after warming, but place no pressure on the affected area. Give sweet, warm fluids. Do not rub part with anything. Do not use heating devices on part. Obtain medical assistance.
  - c. **Hypothermia** is a reduction in core body temperature that occurs when exposure to cold causes a person's body to lose heat faster than it can be replaced. Symptoms include pain in extremities, uncontrollable shivering, reduced core temperature, cool skin, rigid muscles, slowed heart rate, weakened pulse, low blood pressure, slow irregular breathing, slurred speech, drowsiness, incoherence, lack of coordination, diminished dexterity, and diminished judgment. Treat by moving victim from wind, snow, and rain and minimize the victim's use of energy. Keep the victim awake. Remove wet clothing and get into dry clothing. Wrap victim with a blanket. Pack neck, groin and armpits with warm packs or warm towels. Give sweet, warm drinks. Take the victim to a medical facility.

4. **RISK MANAGEMENT**

- a. All Sector Delaware Bay personnel shall assess the risk of each operation or duty period in relation to the risks associated with thermal stress.
- b. An ORM (Operational Risk Management) tool such as the Green, Amber, Red Model (GAR) or SPE (Severity, Probability, Exposure) Model should be used in situations where risks are present. Supervisors and all other personnel should go over associated risks before commencing any Sector operation.
- c. Supervisors may manage risk of thermal stress through administrative controls such as work-rest cycles, worker rotation, adjusting workloads, or deferring high-intensity work to cooler times or days as appropriate. Workers may take one to two weeks to fully acclimatize and appropriate administrative controls must be considered to prevent heat casualties to unacclimatized workers, which could be the case for all workers during an early season heat wave, new transfers just moving from a significantly cooler climate, or employees returning from extended leave in a cooler climate. Training shall be conducted as needed to ensure personnel understand the symptoms of heat and cold stress, preventive measures, and appropriate actions.
- d. Personnel should minimize risks by ensuring they have adequate supplies of water, sports drinks, heat packs, and pertinent cold weather gear (e.g., gloves, foul weather coat, watchcap, etc.) to meet any potential hazard or situation.

## 5. **THERMAL STRESS HAZARD ASSESSMENT CHARTS.**

- a. Table 1 below can be used as a heat stress screening tool using its source, reference (i), to determine the environmental contribution to heat stress in outdoor environments when clothing is worn that will allow air or water vapor movement (i.e., no encapsulating suits or multiple layers). The temperatures listed in Table 1 take into consideration air temperature, radiant heat, and humidity (wet bulb globe temperature [WBGT] Index °C), but does not constitute a distinct line between safe and dangerous levels. MLC detached Safety and Environmental Health Officer (SEHO) can be consulted for more detailed information on these screening criteria, categories of work demands, guidelines for limiting heat stress, and heat stress management.

Table 1:

**Screening Criteria for Heat Stress Exposure**

	<b>Acclimatized Worker (WBGT values in °C)</b>				<b>Unacclimatized Worker (WBGT values in °C)</b>			
Work demand*	Light	Moderate	Heavy	Very Heavy	Light	Moderate	Heavy	Very Heavy
100% work	29.5	27.5	26		27.5	25	22.5	
75% work; 25% rest	30.5	28.5	27.5		29	26.5	24.5	
50% work; 50% rest	31.5	29.5	28.5	27.5	30	28	26.5	25
25% work; 75% rest	32.5	31	30	29.5	31	29	28	26.5
<p><b>*Work demand examples:</b></p> <p><i>Resting</i> – Sitting quietly or sitting with moderate arm movements.</p> <p><i>Light</i> – Sitting with moderate arm and leg movements, using a table saw, or standing with light work at a machine while using mostly arms.</p> <p><i>Moderate</i> – Walking about with moderate lifting or pushing.</p> <p><i>Heavy</i> – Carpenter sawing by hand or shoveling dry sand.</p> <p><i>Very heavy</i> – Shoveling wet sand.</p>								

- b. Reference (i) recommends adequate insulating dry clothing when the wind is calm and a dry work environment's air temperature is below 40° F (dry bulb) to prevent cold stress. Wind chill cooling rate and the cooling power of air are critical factors, therefore Table 2 should be used in assessing the risk of injury to exposed skin and clothing insulation needs. Table 3 below, per reference (i), provides a recommended work/warm-up schedule for temperatures below freezing. During cold weather work the risk of hypothermia increases significantly when a worker's clothing becomes wet, particularly at temperatures below 36° F (dry bulb). Consult reference (i) or the detached SEHO for additional guidance to prevent injuries and manage cold stress.

Table 2:

Wind Chill Chart*													
WIND SPEED (IN MPH)		ACTUAL TEMPERATURE (°F)											
		50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
CALM 5 10 15 20 25 30 35 40	EQUIVALENT CHILL TEMPERATURE												
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60	
	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68	
	40	28	16	3	-9	-21	-33	-46	-58	-70	-83	-95	
	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112	
	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-124	
	30	15	0	-15	-29	-44	-59	-74	-89	-104	-118	-133	
	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140	
	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145	
	26	10	-6	-22	-37	-53	-69	-85	-101	-117	-132	-148	
(WIND SPEEDS GREATER THAN 40 MPH HAVE LITTLE ADDITIONAL EFFECT)		LITTLE DANGER				INCREASING DANGER			GREAT DANGER				
		(In less than 5 hrs with dry skin. Greatest hazard from false sense of security.)				(Exposed flesh may freeze within 1 minute.)			(Exposed flesh may freeze within 30 seconds.)				

\*To determine the windchill temperature, enter the chart at the row corresponding to the windspeed and read right until reaching the column corresponding to the actual air temperature.



Table 3:

TLVs Work/Warm-up Schedule for Outside Workers based on a Four-Hour Shift*											
Air Temperature - Sunny Sky		No Noticeable Wind		5 mph Wind		10 mph Wind		15 mph Wind		20 mph Wind	
°C (approx)	°F (approx)	Max. work Period	No. of Breaks**	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks
-26° to -28°	-15° to -19°	(Norm breaks) 1		(Norm breaks) 1		75 min.	2	55 min.	3	40 min.	4
-29°to -31°	-20°to -24°	(Norm breaks) 1		75 min.	2	55 min.	3	40 min.	4	30 min.	5
-32° to -34°	-25°to -29°	75 min.	2	55 min.	3	40 min.	4	30 min.	5	Non-emergency work should cease	
-35° to -37°	-30° to -34°	55 min.	3	40 min.	4	30 min.	5	Non-emergency work should cease			
-38° to -39°	-35° to -39°	40 min.	4	30 min.	5	Non-emergency work should cease					
-40° to -42°	-40°to -44°	30 min.	5	Non-emergency work should cease							
-43° & below	-45° & below	Non-emergency work should cease									

## LEAD MANAGEMENT PROGRAM



- Ref:
- (a) OSHA, Lead General Industry Standard, 29 CFR 1910.1025
  - (b) OSHA, Lead in Construction Standard, 29 CFR 1926.62
  - (c) Asbestos, Lead and Radon in Coast Guard Housing, COMDTINST 6260.1A
  - (d) EPA, Lead-Based Paint Poisoning Prevention in Certain Residential Structures, 40 CFR Part 745
  - (e) Environmental Engineering, Fifth Edition, 2003: Salvato, Nemerow and Agardy

### 1. **GENERAL.**

- a. Lead is a blue-gray metal occurring naturally in the earth's crust. It has been spread significantly throughout the environment by burning fossil fuels, mining and manufacturing processes and leaded gasoline use in automobiles. Lead is added to paint for pigment durability, stabilization and drying capabilities to produce bright colors and reduce marine growth and mildew.
- b. Sources of lead exposure include various forms of paint (dust, fumes, chips), batteries, radiators, water (point-source or lead contaminated pipes and fittings), inadequately ventilated firing ranges, ceramics, glazed earthenware pottery, colored newsprint, certain types of hobbies (lead solder stained glass processes, lead ammunition, and fishing weights), and soil located near freeways and highways.
- c. Two primary routes of lead exposure include inhalation and ingestion. Inhalation of lead-based paint dust and fumes is a concern during paint removal processes such as sanding and open-flame burning or torching. Ingestion of lead-based paint is of greatest concern with children living in dwellings built before 1950. As lead-based paint flakes and peels onto the floor within a child's play area, it becomes enticing to a child due to the sweet taste, indicative of lead-based paint. Ingestion exposure may also occur when personnel consume food without washing their hands after having worked with or around lead containing material.
- d. Lead can affect almost every organ and system in the human body by accumulating in bones, blood, and tissue. Although lead toxicity most significantly impacts the nervous system in both adults and children, children less than 6 years old may absorb half of what they ingest or inhale, whereas adults excrete almost 95 percent of any lead exposure. Other adverse health effects

resulting from lead exposure include: anemia, blindness, elevated blood pressure, mental retardation, chronic kidney disease, muscular paralysis, fatigue, behavioral changes, miscarriages, reduced sperm production, and birth defects.

## 2. **POLICY STATEMENT.**

- a. All Sector Delaware Bay units that operate or maintain Coast Guard controlled housing and Child Development Centers (CDCs) constructed prior to 1981 must have lead assessed by trained personnel for possible risks. Any risks identified at lead action levels, listed below, will require the creation of a lead management program and should receive appropriate corrective actions. Interstate, state, and local requirements for lead, which are more stringent than the requirements of the tables below, shall be given precedence. Annually, Area or Local Housing Officers must report any changes in the condition of the Coast Guard owned housing lead-based paint, to the Owned Housing Maintenance Coordinator, upon completion of visual follow-up re-assessments. Unit Commanders with housing responsibilities shall ensure implementation and tracking of an occupant disclosure system, timely control measures, effectiveness of controls, and track current status of risk. References (a-e) provide lead hazard and control information.

### Lead In Paint:

Monitoring Level	Action Level	Major Finding
Interior or exterior paint has a lead content greater than or equal to: (a) 1.0 milligram per centimeter square (1.0 mg/cm <sup>2</sup> ) or (b) 0.5% by dry weight; and the entire surface is intact when assessed using ref. (d) guidelines.	Interior or exterior paint has a lead content greater than or equal to: (a) 1.0 mg/cm <sup>2</sup> or (b) 0.5% by dry weight; and the paint surface is in fair or poor condition when assessed using ref. (d) guidelines.	Interior or exterior paint has a lead content greater than or equal to: (a) 1.0 mg/cm <sup>2</sup> or (b) 0.5% by dry weight; and the paint surface is in poor condition when assessed using ref. (d) guidelines; and the paint is in an area used by a small child and/or a pregnant woman.

### Lead In Dust:

Monitoring Level	Action Level	Major Finding
Normally occupied interior areas found to contain lead dust: Floors (carpeted and uncarpeted): Less than 40 micrograms per square foot (40 µg/ft <sup>2</sup> ). Interior Window Sills: Less than 250 µg/ft <sup>2</sup> . Window Troughs: Less than 400 µg/ft <sup>2</sup> .	Normally occupied interior areas found to contain lead dust above the monitoring level: Floors (carpeted and uncarpeted): Greater than or equal to 40 µg/ft <sup>2</sup> . Interior Window Sills: Greater than or equal to 250 µg/ft <sup>2</sup> . Window Troughs: Greater than or equal to 400 µg/ft <sup>2</sup> .	Action Level conditions are met and a small child and/or pregnant woman use the area.

**Lead in Soil:**

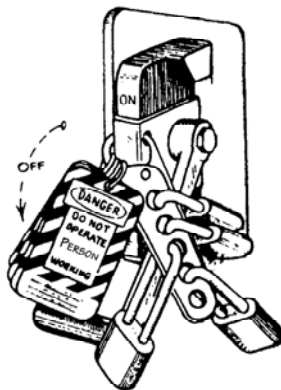
Monitoring Level	Action Level	Major Finding
Bare residential soil around building perimeters and yards: 400 – 1200 ppm. Play areas and high-contact areas for children: 100 - 200 ppm.	Bare residential soil around building perimeters and yards: 1200 – 5000 ppm. Play areas and high contact areas for children: 200 - 400 ppm.	Bare residential soil around building perimeters and yards: Greater than 5000 ppm. Play areas and high contact areas for children: Greater than 400 ppm.

**Lead In Water:**

Monitoring Level	Action Level	Major Finding
Levels less than 15 micrograms per liter (µg/L) or parts per billion (ppb) do not need to be monitored.	15 - 20 µg/L or ppb.	Greater than 20 µg/L or ppb.

- b. Lead hazards at all Sector Delaware Bay owned or operated buildings, housing, and CDCs must be evaluated in accordance with lead regulations established by the Occupational Safety and Health Administration (OSHA), U. S. Environmental Protection Agency (EPA) and Coast Guard Commandant Instructions, references (a-d). That includes operations that pose a possible lead hazard outside of Coast Guard owned or operated buildings such as weapons qualification and work that disturbs lead-containing paint on equipment, structures, vessels, and boats.
- c. Special training, control measures, an initial exposure determination (air sampling or other objective assessment), and OSHA Written Compliance Program are required for lead work, per reference (a) and (b).
- d. Lead samples must only be analyzed by laboratories accredited by EPA National Lead Laboratory Accreditation Programs (NLLAP). Only certified Lead Risk Assessors will collect samples and interpret and make recommendations about sampling results from housing and CDCs.
- e. Contact the MLC detached Safety and Environmental Health Officer (SEHO) or MLC (kse) for assistance or additional information.

## CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT) PROGRAM



- Ref: (a) U.S. Department of Labor, Occupational Safety and Health Administration, General Industry Standard (29 CFR 1910.147)  
(b) U.S. Department of Labor, Occupational Safety and Health Administration, General Industry Standard (29 CFR 1910.331-.335)

1. **PURPOSE.** References (a) and (b) require the employer to establish a program that includes procedures for the control of hazardous energy. This instruction establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where unexpected energizing or start-up of the machine or equipment or release of stored energy could cause injury.

**Important:** The scope of reference (a) is not the same as the scope of reference (b). Reference (a) is concerned with controlling hazardous energy where the worker is potentially exposed to mechanical energy, e.g., moving tool parts, rotating shafts, equipment subject to falling due to gravity. Personnel must be trained sufficiently to recognize hazards and implement the requirements of this program. Reference (b) must be followed where there is a potential exposure to electrical energy. This includes operations as simple as testing an exposed circuit to see if it is energized. Reference (b) requires special training. Status as an electrician or EM is not sufficient, unless the electrician or EM has had the specific, documented training required to be considered a "qualified person," under the provisions of reference (b). The training required by an electrician or EM to become a qualified person is not extensive or difficult. The knowledge that must be acquired is detailed in 1910.332 (reference (b)). Attachment (1) is a flowchart to assist in determining which program to follow.

2. **BACKGROUND.** Injuries to workers, most often those involved in maintenance tasks, occur frequently due to kinetic or potential energy being released during repairs or maintenance. Often, the workers had locked and tagged out an electrical or other power source, but the tags had been removed or ignored, or other sources of energy were part of the system but not recognized as such and not locked and tagged.

3. **DISCUSSION.** It is imperative to the safe and healthful work environment that the Lockout/Tagout Program is followed. References (a) and (b) specify minimum program requirements for control of hazardous energy procedures. Attachment (2) specifies devices available and approved at this unit. The specific procedural steps for shutting down, removal, isolating, blocking, and securing machines or equipment at Sector Delaware Bay are contained in attachments (3) and (4). Attachment (3) describes procedures for lockout of equipment where there is no potential for electrical exposure (paragraph 4.a. of this instruction). Attachment (4) describes procedures for lockout of equipment where exposure to electrical energy is possible (paragraph 4.b. of this instruction). Only trained, qualified, and authorized personnel are permitted to work near or on equipment that is electrically energized, that may become electrically energized, or that may release stored electrical energy. Unit personnel shall follow the procedural steps in attachments (3) and (4) to lockout/tagout unit equipment prior to beginning maintenance or repair work on it. Attachment (5) describes the only exceptions permitted to the requirement to document lockout procedures (reference (a)).

**NOTE:** On shore, tagout alone is not acceptable, unless energy control devices (switches, valves, etc.) will not accept lockout devices. Energy control devices on equipment for which this is true shall be replaced with energy control devices that can be locked out, whenever the equipment or control devices are replaced. Pending replacement, additional precautions beyond tagging out the device, as described in reference (a), must be employed.

4. **ACTION.**

a. *Work that does not potentially expose personnel to electrical energy:*

All sector department heads and subordinate units shall ensure compliance with this instruction through the proper use of lockout/tagout devices by all Active Duty, Reserve, Civilian and Auxiliary Coast Guard members while serving onboard Sector Delaware Bay and subordinate units. Contractors must be informed of the unit's lockout program and must incorporate lockout in her/his procedures. The contractor is not required to follow the unit's program. Lockout devices used at Sector Delaware Bay are found in attachment (2). Procedures that shall be followed to lockout/tagout equipment for work that does not potentially expose personnel to electrical energy at Sector Delaware Bay are located in attachment (3).

- (1) Safety Manager: Shall ensure that an independent review of the unit's lockout/tagout program is conducted annually and documented. This review is to determine that the program is effective and still applicable for installed equipment and processes.

- (2) Engineering Officer/Engineering Petty Officer: The EO/EPO shall identify all hazardous energy sources to which Sector Delaware Bay or contractor personnel might be exposed and develop procedures to deenergize or otherwise positively control these sources when unit or contractor personnel conduct tasks that expose them to the hazardous energy sources. There are several steps in this process:
- (a) Identify all hazardous energy sources (electrical, hydraulic, gravity, etc.); include facilities sources, e.g., air conditioning, ventilation, heating. Electrical energy sources to which personnel may be exposed shall be referred to the procedures in paragraph 4.b. for inclusion in electrical energy control by qualified persons.
  - (b) Group the hazardous energy sources identified in paragraph 4.a.(2)(a) by common tasks and control procedures. For example, most of Sector Delaware Bay shop equipment has only electricity as an energy source and this can be controlled by locking out the disconnect that controls each piece of equipment. It is also acceptable to group hazardous energy sources by shop first and then by common tasks and control procedures or even to write individual procedures for each piece of equipment. This paragraph is only applicable if the work to be accomplished will not expose personnel to potential electrical energy sources. For example, changing a saw blade would not expose personnel to potential electrical energy sources; work on the saw's motor or motor controller would expose personnel to potential electrical energy sources. Only a qualified person, as discussed in reference (b) and paragraph 4.b below, may lockout/tagout the electrical energy and perform work on the motor or motor controller. Equipment with multiple energy sources or control methods must be identified individually (not grouped).
  - (c) Write detailed lockout procedures for each group of equipment. These must include notification of affected personnel; shutdown, tagging and lockout of energy sources; testing of affected equipment for deenergized state by operating the equipment control switches; advising personnel of pending reenergizing of equipment; removal of locks and tags; and reenergizing equipment. In some situations, tasks may require first having electrical energy controlled by the qualified person discussed in paragraph 4.b., and then employing the lockout procedures noted in these paragraphs.
- NOTE:** Reference (a) discusses alternate deenergizing strategies for many types of energy control, e.g., double block and bleed (gas- and liquid-containing systems), blocking (usually gravity energy sources like rams in press brakes and vehicle lift systems), retainers plus locks and tags (may be required in stored energy systems like springs). See attachment (3) for detailed procedures.
- (3) The EO/EPO, with the assistance of the Safety Manager or Unit Safety Coordinator, shall conduct a safety risk assessment to determine the lockout devices to be used at this unit. The lockout devices shall be specified by type,

brand, model, and color, as appropriate. The descriptions must be specific enough to definitively identify the lockout device as being part of the lockout/tagout program. This is to ensure their purpose is understood wherever they are encountered. The EO/EPO shall also oversee the proper functioning of the lockout/tagout program and ensure that new energy control devices are capable of accepting locking devices. Reference (a) shall be used for guidance in lockout or tagout selection. The EO/EPO shall review the devices selected and equipment lockout sequence guides annually and update attachments (2), (3), (4) and (5), as needed.

- (4) Supervisors: Supervisors shall train their personnel in use of lockout devices and the implementation of this instruction. Training must be documented. They shall inspect their areas to ensure that non-essential items have been removed and to ensure that machinery or equipment components are operationally intact, they shall inform personnel that lockout/tagout devices are in effect, and they shall advise their personnel when lockout/tagout devices have been removed.
- (5) Unit Personnel: Unit personnel are required to comply with the restrictions and limitations imposed upon them during operations requiring implementation of the lockout/tagout program. The authorized members are required to perform the lockout/tagout in accordance with this instruction and their training. All personnel, upon observing a machine or piece of equipment that is locked out to perform serving or maintenance, shall not attempt to start, energize, or use that machine or equipment.
- (6) Group lockout, personnel changes, shift changes: Lockout devices shall be affixed by all members of work teams assigned to tasks requiring lockout/tagout. Each member shall remove her/his device when she/he will no longer be exposed to the hazards of the equipment on which the locks were affixed. Adapters are available for “gang” lockout. Whenever personnel change, each new person shall affix her/his lock to the gang locking device, after the person leaving removes hers/his. Each new worker shall verify that adequacy of the lockout (no energy release is possible).
- (7) Removal of locks. Only the person that affixed the lock is permitted to remove it. If that person is not available, the supervisor shall advise the EO/EPO. The EO/EPO may authorize removal of the lock, after verifying that it is necessary and will not create any hazards or increase risk to personnel.

b. ***Work that may potentially expose personnel to electrical energy:***

All division and department heads shall ensure compliance with this instruction through the proper use of lockout/tagout devices by all Active Duty, Reserve, Civilian and Auxiliary Coast Guard members while serving onboard Sector Delaware Bay. Contractors must be informed of the unit’s lockout program and must incorporate lockout in her/his procedures. The contractor is not required to follow the unit’s program. Lockout devices used at Sector Delaware Bay are found in attachment (2). Procedures that shall be followed to lockout/tagout equipment when



personnel may be exposed to electrical energy at Sector Delaware Bay are located in attachment (4).

- (1) Safety Manager: Shall ensure there is an independent review of the unit's lockout/tagout program is conducted annually and documented. This review is to determine that the program is effective and still applicable for installed equipment and processes.
- (2) Engineering Officer/Engineering Petty Officer: The EO/EPO, in conjunction with an electrician or EM shall identify all electrical energy sources to which Sector Delaware Bay or contractor personnel might be exposed and develop procedures to deenergize or otherwise positively control these sources when unit or contractor personnel conduct tasks that expose them to the hazardous electrical energy sources. ONLY "QUALIFIED" PERSONNEL, AS DESCRIBED IN REFERENCE (b), ARE PERMITTED TO WORK WHERE THERE IS A POTENTIAL EXPOSURE TO ELECTRICAL ENERGY. This restriction even applies to "routine" operations such as fuse or breaker replacement. There are several steps in this process:
  - (a) Identify all electrical energy sources to which personnel may be exposed.
  - (b) Group these by common tasks and control procedures. For example, most Sector Delaware Bay shop equipment has only electricity as an energy source and this can be controlled by locking out the disconnect that controls each piece of equipment and testing the appropriate circuits for voltage. It is also acceptable to group hazardous energy sources by shop first and then by common tasks and control procedures or even to write individual procedures for each piece of equipment. Equipment with multiple energy or different energy sources or control methods must be identified individually. Work not involving potential exposure to electrical energy should follow the procedures in paragraph 4.a. In some instances, it may be necessary to employ both programs (references (a) and (b)) to achieve a safe condition for workers.
  - (c) Write detailed lockout procedures for each group of equipment. These must include notification of affected personnel; shutdown, tagging and lockout of energy sources; using test instruments to verify that the affected equipment is deenergized; using insulated tools and PPE (e.g., insulated gloves) as necessary; advising personnel of pending reenergizing of equipment; removal of locks and tags; and reenergizing equipment. In some situations, tasks may require first having electrical energy controlled by the qualified person, and then employing the lockout procedures noted in paragraph 4.a., above, to control non-electrical energy sources.

**NOTE:** Reference (a) discusses alternate deenergizing strategies for many types of energy control, e.g., double block and bleed (gas- and liquid-containing systems), blocking (usually gravity energy sources like rams in press brakes and vehicle lift systems), retainers plus locks and tags (may be

required in stored energy systems like springs), that may be necessary in addition to the lockout procedures for controlling electrical energy. See attachment (4) for detailed procedures.

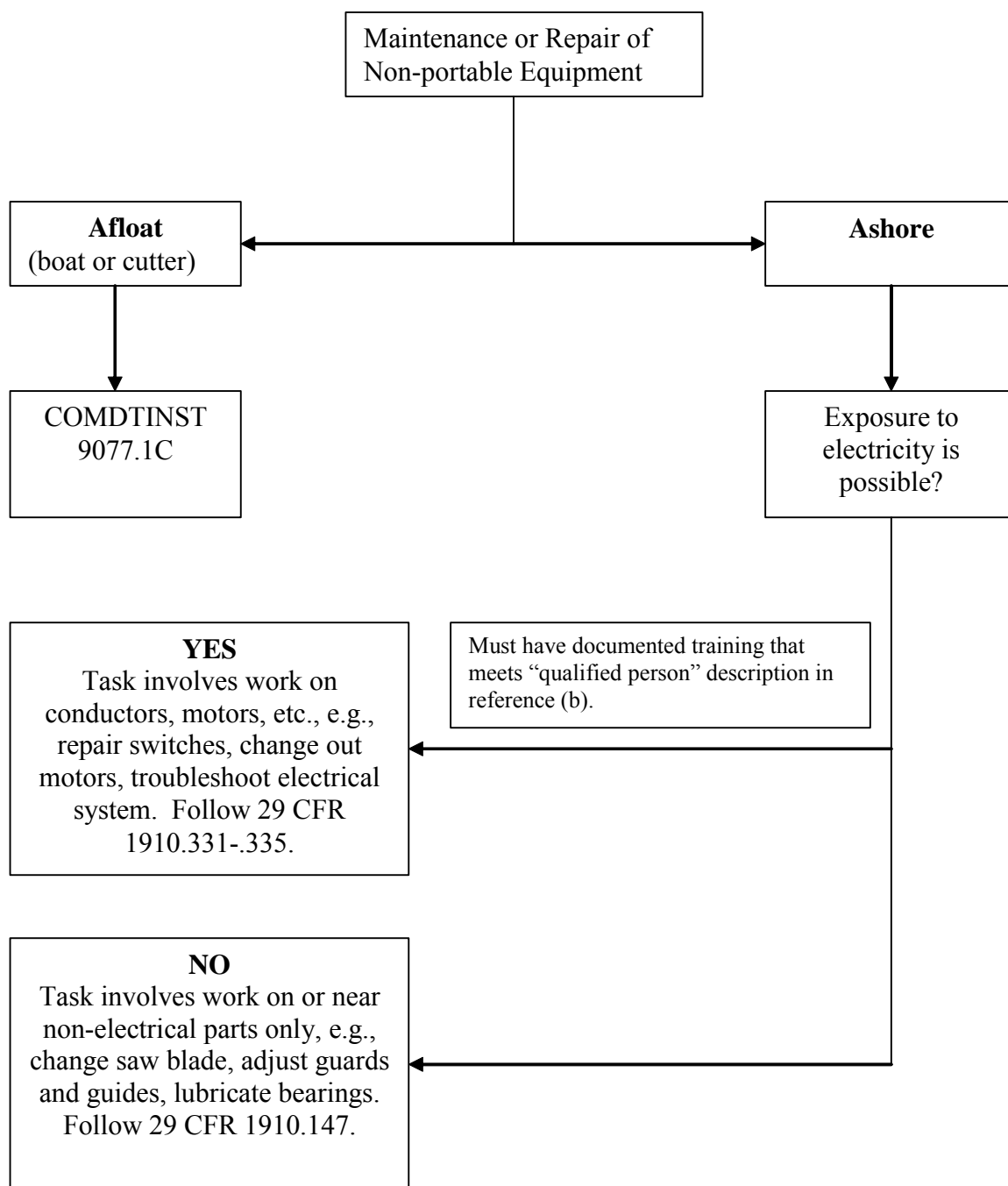
- (3) The EO/EPO with the assistance of the Safety Manager or Unit Safety Coordinator shall conduct a safety risk assessment to determine the lockout devices to be used at this unit. The lockout devices shall be specified by type, brand, model, and color, as appropriate. The descriptions must be specific enough to definitively identify the lockout device as being part of the lockout/tagout program. This is to ensure their purpose is understood wherever they are encountered. The EO/EPO will also oversee the proper functioning of the lockout/tagout program and ensure that new energy control devices are capable of accepting locking devices. Reference (a) shall be used for guidance in lockout or tagout selection. The EO/EPO shall review the devices selected and equipment lockout sequence guides annually and update attachments (2), (3), (4) and (5), as needed.
- (4) Supervisors: Supervisors shall train their personnel to recognize lockout devices used by qualified personnel and to never remove them. They shall inspect their areas to ensure that non-essential items have been removed and to ensure that machinery or equipment components are operationally intact, they shall inform personnel that lockout/tagout devices are in effect, and they shall advise their personnel when lockout/tagout devices have been removed.
- (5) EMs, ETs and Electricians: No personnel, including EMs, ETs, and electricians shall approach live electrical parts, unless they have been trained and designated as qualified persons and have and use appropriate PPE, insulating and shielding materials, insulated tools, and employ special precautionary techniques, as described in reference (b).
- (6) Unit Personnel: Unit personnel are required to comply with the restrictions and limitations imposed upon them during operations requiring implementation of the lockout/tagout program. All personnel, upon observing a machine or piece of equipment that is locked out to perform serving or maintenance shall not attempt to start, energize, or use that machine or equipment.
- (7) Group lockout, personnel changes, and shift changes: Lockout devices shall be affixed by all members of work teams assigned to tasks requiring lockout/tagout. Each member shall remove her/his device when she/he will no longer be exposed to the hazards of the equipment on which the locks were affixed. Adapters are available for “gang” lockout. Whenever personnel change, each new person shall affix her/his lock to the gang locking device, after the person leaving removes hers/his. Each new worker shall verify that adequacy of the lockout (no energy release is possible).
- (8) Removal of locks. Only the person that affixed the lock is permitted to remove it. If that person is not available, the supervisor shall advise the EO/EPO. The

EO/EPO may authorize removal of the lock, after verifying that it is necessary and will not create any hazards or increase risk to personnel.

- Attachment:
- (1) SELECTING THE CORRECT LOCKOUT/TAGOUT PROGRAM
  - (2) USCG SECTOR DELAWARE Bay LOCKOUT / TAGOUT DEVICES AND ELECTRICAL TEST INSTRUMENTS
  - (3) USCG SECTOR DELAWARE BAY LOCKOUT / TAGOUT PROCEDURES  
– NO Electrical Exposure
  - (4) USCG SECTOR DELAWARE BAY LOCKOUT / TAGOUT PROCEDURES  
– Electrical Exposure Possible
  - (5) USCG SECTOR DELAWARE BAY LOCKOUT / TAGOUT FOR  
EQUIPMENT THAT MEETS THE 29 CFR 1910.147 (c)(4) EXCEPTIONS

Attachment: (1)

# **SELECTING THE CORRECT LOCKOUT/TAGOUT PROGRAM**



Attachment: (2)

**USCG SECTOR DELAWARE BAY LOCKOUT / TAGOUT DEVICES AND  
ELECTRICAL TEST INSTRUMENTS**

1. Fluke Multi Meter Model 87-III
2. Fluke Amprobe / 334 Clamp Meter
3. Tic Tracer / Pasar Amprobe
4. Identification System / Lab Safety Supply: Safety Lockout/Tagout and Padlock Center

\* Substitutions for these devices **cannot** be made. \*

Attachment: (3)

**USCG SECTOR DELAWARE BAY LOCKOUT / TAGOUT PROCEDURES**

**Where exposure to electrical energy is NOT possible**

- a. Initial Notification: Notify all affected members that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance. The following are division personnel that should be notified, in addition to the immediately affected personnel in the area where the lockout will take place.
- (1) EM1 M. Alexandre                      Ext. 4841
  - (2) DCC T. Stryminski                      Ext. 4836
  - (3) MKCS D. Dombkowski                      Ext. 4836
  - (4) Quarterdeck to make "pipe"                      Ext. 0
- b. Statement Lockout Sequence: This procedure shall be used for controlling hazardous energy sources for all shore unit processes. Specific procedural steps for shutting down, removal, isolating, blocking and securing machines or equipment to control hazardous energy are listed below:
- (1) GENERAC Emergency Diesel Generator
    - (a) Using keys, turn keys(s) located on the Standby Power Transfer Switch control cabinet to the "OFF" position. Remove key(s) and place in locked toolbox. Remove engine starter fuse(s) located at the rear of the generator.
    - (b) On Alarm Repeater unit located in timer room there should be a generator-not-ready alarm by indication of large flashing amber light and a small steady red light for the number three position.
    - (c) Diesel generators will not accommodate a lockout device. A tagout device must be used. This requires BOTH turning the key to "off" and removal of the fuse(s). Removal of tagout device shall only be done when generator is placed back into ready status.
  - (2) The following units are grouped by procedure:
    - Weil McClain Heating Boiler #1 and #2
    - Patterson Kelly Domestic Hot Water Boiler #1 and #2
    - Heating/Cooling Circ Pump #1 and #2
    - (a) Secure double pole breaker for unit in power panel LN-1 located in the Sector mechanical room. Place lock and tagout device.

- (b) Test unit by opening discharge valve located on pressure tank once the temperature is below 60 °F and opening system valve located on south wall of generator room (red) handle. Once system pressure falls below 130 psi, the unit should not start.
  - (c) Removal of the lock and tagout device shall only be accomplished when the unit is in a ready status.
- c. Restoring Equipment to Service: When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.
  - (1) Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
  - (2) Check the work area to ensure that all employees have been safely positioned or removed from the area.
  - (3) Verify that the controls are in neutral.
  - (4) Remove the lockout devices and reenergize the machine or equipment. Note: The removal of some forms of blocking may require reenergizing the machine before safe removal of the block is possible e.g., some hydraulic rams.
  - (5) Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for used.
- d. Removal of a lockout/tagout device: Lockout/tagout device may not be removed by other than the person who installed it without the written authorization of the EO/EPO. The EO/EPO shall verify the current status of the machine or piece of equipment. In cases where the authorized member who placed the lockout/tagout device is unable to clear the device the CO/OINC, XO/XPO shall be notified. Upon the return of this person to the unit, they will report to the EO/EPO to ensure the member knows that the device has been removed prior to resuming work.
- e. Lockout/Tagout Equipment Identification: Lockout devices and identifying means are described in attachment (2). Substitutions for these devices cannot be made. Reference (a) requires these devices to be standardized at each facility and describes the choices of identifying means.

Attachment: (4)

**USCG SECTOR DELAWARE BAY LOCKOUT / TAGOUT PROCEDURES**  
***Where exposure to electrical energy is possible. Requires a qualified person (29 CFR 1910.331-.335)***

- a. Initial Notification: Notify all affected members that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance. The following are division personnel that should be notified, in addition to the immediately affected personnel in the area where the lockout will take place.

- |     |                            |           |
|-----|----------------------------|-----------|
| (1) | EM1 M. Alexandre           | Ext. 4841 |
| (2) | DCC T. Stryminski          | Ext. 4836 |
| (3) | MKCS D. Dombkowski         | Ext. 4836 |
| (4) | Quarterdeck to make "pipe" | Ext. 0    |

- b. Statement Lockout Sequence: This procedure shall be used for controlling hazardous energy sources for all shore unit processes. Specific procedural steps for shutting down, removal, isolating, blocking and securing machines or equipment to control hazardous energy are listed below:

- (1) The following units are grouped by procedure:

Liebert AC Unit #1 and #2

McQuay AC Chiller units #1 and #2

Trane AC Unit #1 and #2

Ventrol Air Handler AHU2

McQuay Air Handler Units HV1 and AHU1

Reznor Heating unit #1 and #2

Lennox AC unit

- (a) Depress off button.
- (b) Move disconnect mounted on wall (labeled by HVAC unit name) to off position. Apply lock.
- (c) Open disconnect.
- (d) While wearing dielectric (insulating) gloves and over gloves rated at 500 volts or greater, test the circuit using the Tic Tracer / Pasar Amprobe (verify proper operation of this instrument prior to



conducting this test) to verify it is no longer live. **This requires a qualified person, as defined by 29 CFR 1910.331-.335**

- c. Restoring Equipment to Service: When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.
  - (1) Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
  - (2) Check the work area to ensure that all employees have been safely positioned or removed from the area.
  - (3) Verify that the controls are in neutral.
  - (4) Remove the lockout devices and reenergize the machine or equipment.  
Note: The removal of some forms of blocking may require re-energize the machine of the machine before safe removal.
  - (5) Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for used.
- d. Removal of a lockout/tagout device: Lockout/tagout device may not be removed by other than the person who installed it without the written authorization of the EO/EPO. The EO/EPO shall verify the current status of the machine or piece of equipment. In cases where the authorized member who placed the lockout/tagout device is unable to clear the device the CO/OINC, XO/XPO shall be notified. Upon the return of this person to the unit, they will report to the EO/EPO to ensure the member knows that the device has been removed prior to resuming work.
- e. Lockout/Tagout Equipment Identification: Lockout devices and identifying means are described in attachment (2). Substitutions for these devices cannot be made. Reference (a) requires these devices to be standardized at each facility and describes the choices of identifying means.

Attachment: (5)

**USCG SECTOR DELAWARE BAY LOCKOUT / TAGOUT FOR EQUIPMENT THAT MEETS THE 29 CFR 1910.147 (c)(4) EXCEPTIONS**

- a. Equipment that meets the exception criteria below does not require documenting the lockout procedures, reference (a), 29 CFR 1910.147, i.e., the procedures do not have to be listed.

**Exception:** The employer need not document the required procedure for a particular machine or equipment, when **ALL** of the following elements exist:

- The machine or equipment has no potential for stored or residual energy or reaccumulation of stored energy after shut down which could endanger employees.
- The machine or equipment has a single energy source which can be readily identified and isolated.
- The isolation and locking out of that energy source will completely deenergize and deactivate the machine or equipment.
- The machine or equipment is isolated from that energy source and locked out during servicing or maintenance.
- A single lockout device will achieve a locked-out condition.
- The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance.
- The servicing or maintenance does not create hazards for other employees.
- The employer, in utilizing this exception, has had no accidents involving the unexpected activation or reenergization of the machine or equipment during servicing or maintenance.

- b. Equipment at Sector Delaware Bay that meets the exception criteria noted above:

- (1) DeWalt drill press located in the DC shop
- (2) Dewalt table saw located in the DC shop
- (3) 10" Bench grinder located in the DC shop

## **MOTOR VEHICLE SAFETY**



- Ref: (a) Safety and Environmental Health Manual, COMDTINST M5100.47  
(b) Motor Vehicle Manual, COMDTINST M11240.9(series)  
(c) Administrative Investigations Manual, COMDTINST M5830.1

### **1. GENERAL.**

- a. Motor vehicle mishaps are one of the leading causes of injury and loss of Coast Guard personnel. Motor vehicle mishaps cost the Coast Guard thousands of dollars in property damage each year and thousands of lost work hours due to medical recovery or rehabilitation. This lost time directly affects mission completion or unit readiness. Leading causal factors of motor vehicle mishaps include: alcohol, excessive and/or aggressive driving, misuse of seatbelts or motorcycle personal protective equipment (PPE), fatigue, traveling at high risk times, and finally, driver distractions (e.g., cell phones, stereos, GPS, etc.). Reducing or eliminating some of these factors may improve the safety of Sector Delaware Bay members.
- b. Reference (a) requires that each unit have a comprehensive motor vehicle safety plan. Its purpose is to reduce motor vehicle mishaps and promote the safety of Coast Guard members on and off-duty. All personnel, including dependents and visitors, operating vehicles on board Sector Delaware Bay and its subunits shall comply with this instruction. Additional motor vehicle safety policy applicable to military personnel, while on and off duty, is contained in Chapter 10 of reference (a) and reference (b).

### **2. POLICY STATEMENT.**

- a. Sector Delaware Bay subunits shall tailor this general motor vehicle safety program to mirror subunit missions and specific motor vehicle safety concerns.
- b. Sector Delaware Bay members are responsible for obeying Coast Guard motor vehicle safety policy and all laws/regulations set forth by state or local municipalities.

3. **RISK MANAGEMENT.**

- a. The principles and process of risk management should be fully integrated with any motor vehicle safety program. It should be understood by all that policies and laws can only affect safety to a point. Individual Sector members must recognize that there are hazards within their control, hazards that can be influenced or mitigated, and hazards that cannot be directly controlled.
- b. Motor vehicle safety risk management should be practiced at all times, on and off-duty. Supervisors, Department Heads and subunit Commanding Officers/Officers in Charge should demonstrate leadership and a commitment to motor vehicle safety by emphasizing proper tools and training.
- c. Risk management is a continuous tool and should be applied to the preparation, planning, and execution of any mission whether on or off-duty. Although details may be added dependent on the specific activity, equipment, and environment, a general safety checklist includes the following: vehicle safety, trip planning, and inclement weather driving conditions. These areas can be applied to the following activities and areas: mission (activity both on and off-duty), individual (physical, mental competency), equipment (PPE, mechanical condition), environment (weather, time of day, geography, routes), contingency (emergency preparedness), and continuous monitoring (maintaining situational awareness).

4. **PROCEDURE.**

- a. The Safety Manager is responsible for oversight of the motor vehicle safety plan for Sector Delaware Bay departments. The Safety Manager and appropriate Safety Coordinators shall ensure resolution of emergent motor vehicle safety issues, and periodic updates to the policies contained herein.
- b. The Safety Coordinator(s) shall provide initial motor vehicle safety training during PCS Check-in, as well as annual refresher training. The Safety Manager will facilitate unit participation in awareness campaigns such as the Buckle-Up America promotion or heighten awareness during holidays or inclement weather conditions. Additional resources to augment this training may include the applicable local law enforcement authorities and personnel from MLC (kse) or their subordinate staff elements. Initial and annual motor vehicle safety training shall include the following topics:
  - (1) Orientation with unit motor vehicle policy
  - (2) Local traffic laws
  - (3) Seasonal road conditions / driving considerations
  - (4) Coast Guard policy on motor vehicle, bicycle, and pedestrian safety
  - (5) Driver improvement course for high-risk personnel as per reference (a) and (b)

- (6) Policies for qualification and authorization (Motor Vehicle Operators Permit OF-346) to operate Special Purpose Motorized Equipment (SPME), Emergency Vehicles, 15 passenger vans, large trucks, and trailers per reference (b)
  - c. All personnel operating or riding in a motor vehicle (including forklift machines) aboard Sector Delaware Bay and subunits shall use installed occupant restraint devices at all times. Personnel shall comply with state laws governing use of child / infant restraint safety seats. Passengers shall not ride in a vehicle, while on government property, that does not provide them with a restraining device (e.g., pickup truck bed, etc.) unless designed for passenger occupancy without restraining devices.
  - d. Maximum on-duty driving times are established for Sector Delaware Bay and subunits. To reduce the potential for motor vehicle mishaps caused by operator fatigue, supervisors shall utilize the unit's Operational Risk Management model to identify hazards and reduce risks when assigning long-distance driving duties to personnel who have been on-duty for the previous eight hours. Note: All vehicle occupants are considered to be "on-duty" while traveling in a Coast Guard vehicle.
- (1) During periods of Permanent Change of Station (PCS), Temporary Duty (TDY) or Temporary Additional Duty (TAD) travel, as cited in Chapter 10 of reference (a), addresses private motor vehicle and government motor vehicle travel time for PCS, TDY or TAD travel orders. Generally, one day of travel is allowed for each 350 miles of official distance of ordered travel. When the total official distance is 400 miles or less, one day's travel time is allowed. This applies to travel by privately owned conveyance (when advantageous to the government), special conveyance (vehicle) as authorized for TDY travel and government vehicle use during these types of travel.
  - (2) Coast Guard vehicles operated by on-duty full-time or part time operators, and operators of vehicles carrying explosives or other hazardous cargo, shall not be required to drive a motor vehicle during any duty period if that period was not preceded by at least 10 consecutive hours off-duty.
  - (3) No one may drive or require another member to drive a motor vehicle with a combined duty and driving time exceeding 14 hours in a 24 hour period. A 10 hour rest period shall be required prior to duty status or resuming driving duties.
  - (4) No one may drive or require another member to drive a motor vehicle for more than 8 hours in a 24 hour period if the vehicle is carrying explosives or other hazardous cargo.

- (5) Two or more qualified drivers shall be assigned for trips greater than 400 miles, or if driving time is expected to exceed 10 hours, or exceed 8 hours when transporting explosives or hazardous cargo, in a 24 hour period. In as much as all vehicle occupants are “on duty” while in the vehicle, the total time of travel shall not exceed 14 hours in a 24 hour period. Assigned drivers shall relieve each other of driving responsibility, to ensure that no individual driver exceeds a total driving time of 10 hours, or 8 hours when transporting explosives or hazardous cargo.
  - (6) Driving times shall be reduced to not more than eight hours per driver for night driving and during periods of inclement weather. Total driving time for all assigned drivers may not exceed 14 hours in a 24 hour period. Due to reduced alertness and performance during night time hours, two or more qualified drivers shall be assigned and these drivers shall rotate driving duties every two hours between the hours of 2200 and sunrise.
  - (7) Emergency medical services, fire apparatus and crash/rescue vehicle drivers who are assigned to rotating shifts with sleeping accommodations are exempt from the above duty time restrictions.
- e. Coast Guard personnel are required to comply with all Coast Guard and state regulations governing operation of a motorcycle, both on and off base. All unit personnel, civilian or military that operate or park a motorcycle on any Coast Guard facility or DOD installation shall complete a Motorcycle Safety Foundation (MSF) or similar DOD or state approved motorcycle training course. Military personnel that operate a motorcycle (street legal) shall obtain this training regardless of whether the motorcycle is operated on or off base. Details of training requirements are addressed in Chapter 10 of reference (a). All unit motorcycle operators, and passengers (military and civilian) shall wear the PPE indicated in this paragraph when onboard a Coast Guard facility. All military motorcycle operators shall wear this equipment at all times regardless of where the motorcycle is operated: a DOT- or Snell-approved motorcycle helmet with chinstrap securely fastened, impact or shatter resistant goggles or full-face shield (a windshield or fairing does not meet this requirement), over-the-ankle, sturdy footwear, full-fingered gloves, long-legged trousers, and a long-sleeved shirt or jacket. Brightly colored or white upper garments shall be worn during the day and high visibility reflective or retro-reflective vests, harnesses or strips on clothing at night or in periods of low visibility (fog and rain). Outer upper garments should be clearly visible and not covered. Note: The PPE indicated above is required for entry onto DoD installations, and retro-reflective vests or harnesses are required on DoD installations at all times. Reference (a) also requires that the motorcycle headlight be illuminated at all times while in operation. Passengers on mopeds are prohibited
- f. Reference (a) requires all ATV operators to comply with the PPE requirements mandated for motorcycle operations. Further, it specifies that 3-wheel ATVs shall

not be operated on government property and that riding double on ATVs not specifically designed for this purpose is strictly prohibited. All Coast Guard personnel who operate an ATV on official business or onboard any Coast Guard facility shall successfully complete an approved ATV safety course.

- g. All persons who operate a bicycle, roller-skate, skateboard, or scooter on government property shall wear a protective helmet approved for this purpose. The wearing of portable headphones, earphones, or other listening devices while operating a motorized vehicle, jogging, walking, skating or bicycling on the roads or streets of Sector Delaware Bay and subunits are prohibited
- h. Unless posted otherwise, the speed limit on Coast Guard Sector Delaware Bay's base is 5 mph. Radar detectors are prohibited on Coast Guard installations.
- i. Aggressive driving, careless driving, and driving under the influence shall not be tolerated on Coast Guard installations. When driving at Sector Delaware Bay and subunit facilities, the operator and/or passenger(s) of all motor vehicles are prohibited from having open containers of alcoholic beverages in their possession. Personnel operating a government motor vehicle are prohibited from having open containers of alcoholic beverages in the vehicle at any time, on or off a Coast Guard facility. Coast Guard members (military and civilian) are also subject to any state laws that prohibit open containers and possession of alcoholic beverages in all motor vehicles.
- j. Vehicle operators on a Coast Guard facility and operators of Government owned or authorized vehicles off facility shall not use cell phones or similar devices while the vehicle is in operation. The potential for driver distraction also exists for activities such as eating and drinking, applying makeup, shaving, reading maps and directions, and operating radios, stereos, two-way communications devices or global positioning equipment. These activities should only be performed when the vehicle is safely stopped, as per Chapter 10 of reference (a).
- k. The procedures for mishaps involving government vehicles are contained in Chapter 3 of reference (a). Motor vehicle mishaps can be reported using the Coast Guard E-mishap system, at the following website:  
<http://cgweb.lant.uscg.mil/KDiv/kseHomePage.htm>.
- l. Sector Delaware Bay and subunit personnel are strongly encouraged to use the CG Travel Risk Planning System (TRiPS) - private motor vehicle assessment tool. TRiPS is an online, risk assessment planning tool designed to allow members to answer a series of questions regarding their travel preparation and planning, the vehicle used for travel and the duration of travel. From this input, TRiPS provides a personalized trip risk analysis, including a hazard assessment value and recommendations for reducing travel risk. Examples of actual mishaps that occurred during similar trips and other motor vehicle safety information are provided for the member to review. The entire process takes 10-15 minutes to

complete. Links to weather reports and maps are also available. An email notification of the risk analysis is forwarded to the member's supervisor, which triggers discussion of plans, risks, and controls. TRiPS provides an excellent opportunity for individual commands to educate their personnel on the risks they face while traveling by private motor vehicle on liberty and leave. Supervisors are strongly encouraged to have personnel develop a risk assessment profile using TRiPS prior to approval of leave requests, particularly in cases where extended or overnight travel or younger or inexperienced drivers are involved, and for personnel who have had a previous motor vehicle accident, alcohol incident, or driving under the influence determination. TRiPS can be accessed at: <https://crcapps2.crc.army.mil/trips/cg/login.aspx>. The link will take you to the site to register and/or login to use the system. You will be required to use your Coast Guard e-mail address and you will need to select a password.

- m. Personnel (including dependents) are subject to loss of driving privileges on government property for repeated or gross infractions. Reference (c) requires a line of duty / misconduct determination for any mishaps involving active duty personnel with lost time exceeding 24-hours. For example, a determination of "misconduct" may be in order if a Coast Guard member, while riding a motorcycle without a safety helmet, receives a head injury and evidence suggests use of a helmet would have prevented the injury. A finding of "misconduct" or "not in the line of duty" may deprive a member of benefits to which they might otherwise be entitled. Such benefits include physical disability retirement, severance pay, and medical costs.



## NEW CREWMEMBER SAFETY AND HEALTH ORIENTATION PROGRAM



Ref: (a) COMDTINST M5100.47 Safety and Environmental Health Manual  
(b) COMDTINST M6000.1B Medical Manual

1. **GENERAL.** This program implements the Initial Safety and Health Orientation for all new crewmembers. All personnel are required to receive training in the hazards they may face in the course of their normal duties and in how to protect themselves from these hazards. Some occupational hazards will require in-depth review of established programs and safe work practices or attending extended formal safety training courses in addition to this initial new crewmember indoctrination. This command's responsibility is to ensure that a safety policy is developed and implemented; it is YOUR responsibility to comply. Read reference (a), and then meet with the Unit Safety Coordinator who will discuss the orientation program with you and answer any questions you might have.
2. **POLICY STATEMENT.** Part of this safety indoctrination includes typical activities found aboard this unit and what particular hazards crewmembers encounter on a daily basis. For example, the Law Enforcement Boarding Team (LEBT) faces confined space hazards while conducting boardings with potential exposure to cargoes containing hazardous materials. Members of the LEBT should conduct a thorough risk assessment before getting underway. New members must be indoctrinated by the Unit Safety Coordinator, supervisor, team leader, etc., regarding unit- and job-specific hazards. Proper safety controls, safe work practices, and personal protective equipment (PPE) that address those hazards must be covered.
3. **NEW MEMBER SAFETY QUESTIONS.** Essential elements of the safety program require demonstrating knowledge about the program. The Unit Safety Coordinator shall review the questions with the new member to ensure comprehension and understanding of how essential safety is to the unit's missions and personnel.

Who is the unit designated Safety Manager? \_\_\_\_\_

How often does the Safety Committee meet? \_\_\_\_\_

Who may attend a Safety Committee meeting? \_\_\_\_\_

Who would you see if you had questions about respiratory protection? \_\_\_\_\_

Who would you contact regarding the safe handling of hazardous material located at this unit? \_\_\_\_\_

Who is responsible for overseeing safety issues at a pollution response and/or other large scale response incident? \_\_\_\_\_

Who tracks physical exam schedules for compliance with medical monitoring requirements? \_\_\_\_\_

How do you schedule an Occupational Medical Surveillance and Evaluation Program (OMSEP) physical? \_\_\_\_\_

When must your baseline OMSEP physical be completed? \_\_\_\_\_

**Control Strategies and Programs**

What is the purpose of the hazard communication program? \_\_\_\_\_

As a general rule, when should hearing protection be worn? \_\_\_\_\_

How can you avoid heat stress? \_\_\_\_\_

What are three ways to minimize or control hazards? \_\_\_\_\_

What should you do if you identify a hazard that you feel is not adequately controlled by the unit safety program? \_\_\_\_\_

**Confined Space Safety**

Define a confined space \_\_\_\_\_

Define the term “entry” in relation to confined spaces? \_\_\_\_\_

Describe a confined space/hazardous atmosphere situation that a pollution responder, facility inspector or LE boarding party might encounter:

\_\_\_\_\_

Describe some other confined spaces you might encounter while working at this unit:

\_\_\_\_\_

**Safety Equipment**

List the safety equipment required for the activities you will be assigned:

What PPE is used to limit exposure to UV radiation from the sun? \_\_\_\_\_

When should an EEBD be carried? \_\_\_\_\_

What types of WMD/CBR Detection gear do we carry? \_\_\_\_\_

When should an oxygen alarm be carried? \_\_\_\_\_

**Mishaps**

List the types of accidents that are reportable mishaps:

---

---

---

---

---

Who should you notify in the event you become aware of a mishap? \_\_\_\_\_

---

4. **SAFETY CHECK-IN SHEET**. Required initial training must be documented. The safety check-in sheet below will be used for this purpose as well as a guide to ensure all relevant safety topics are discussed with new members as they report aboard.

Name:

Sector Delaware Bay Initial Safety Training/Check-in		
Subject	Date	Signature
<b>Personal Protective Equipment</b> Ref: 29 CFR 1910.132(f) ❖ When PPE is necessary to be worn. ❖ What PPE is necessary. ❖ How to properly don, doff, adjust, and wear PPE. ❖ The limitations of the PPE.		<i>Person giving training</i>
<b>Respiratory Protection</b> Ref: COMDTINST M6260.2D ❖ What training, medical ok and fit testing are necessary before you can wear a respirator. ❖ When a respirator is necessary to be worn. ❖ What type of respirator & filter is necessary. ❖ How to properly don, doff, adjust, wear and clean a respirator. ❖ The limitations of a respirator.		<i>Person giving training</i>
<b>Hazard Communication</b> Ref: COMDTINST 6260.21B ❖ An overview of the elements of the Coast Guard hazard communication program; ❖ Purchasing & labeling requirements; ❖ The location of the written program, hazardous materials inventory list and MSDSs; ❖ Contents of MSDS with emphasis on: <ul style="list-style-type: none"> <li>➤ work operations where material is used;</li> <li>➤ hazards presented;</li> <li>➤ safe work practices required;</li> <li>➤ protective measures to be taken;</li> <li>➤ emergency first aid procedures to be followed;</li> <li>➤ and interpretation of hazardous material labels.</li> </ul>		<i>Person giving training</i>
<b>Confined Space</b> Ref: COMDTINST M5100.47 COMDTINST M9000.6(series) NSTM Chap. 074 Vol. 3 ❖ Define a confined space. ❖ List of confined spaces on unit. ❖ Unit policy for entering a confined space. ❖ <b>Prohibition against entering a confined space unless part of a trained team and after testing and issuing a permit.</b>		<i>Person giving training</i>

Sector Delaware Bay Initial Safety Training/Check-in		
Subject	Date	Signature
<b>Fire Safety</b> Ref: COMDTINST M5100.47 <ul style="list-style-type: none"> <li>❖ Fire prevention               <ul style="list-style-type: none"> <li>➤ housekeeping</li> <li>➤ storage of hazardous materials (incompatibles)</li> </ul> </li> <li>❖ Reporting fires.</li> <li>❖ Unit policy on combating fires.</li> <li>❖ Instructions for evacuation.</li> <li>❖ Assignment of responsibilities.</li> <li>❖ Instruction for removal of equipment/materials, e.g., removing aircraft from hangers or vessels from piers.</li> </ul>		<i>Person giving training</i>
<b>Lockout/Tagout</b> Ref: COMDTINST M9000.6D COMDTINST 9077.1 (vessel) 29 CFR 1910.147 (shore) <ul style="list-style-type: none"> <li>❖ What is lockout/tagout.</li> <li>❖ Why is it used.</li> <li>❖ Who can authorize a lockout/tagout.</li> <li>❖ Who can remove the lock/tag and energize/activate the system/equipment.</li> </ul>		<i>Person giving training</i>
<b>Blood-borne Pathogen</b> Ref: COMDTINST M6220.8 <i>Level II training for initial training of persons who may have infrequent exposure to BBPs.</i> <ul style="list-style-type: none"> <li>❖ General explanation of BBPs.</li> <li>❖ Explanation of transmission.</li> <li>❖ Identify tasks and activities relevant to BBP involvement (e.g. AMIO, EMT/first responder, boarding teams, working on sewage systems, etc.).</li> <li>❖ Examples of personal protective equipment use and disposal to include hands on practice.</li> <li>❖ Information about hepatitis B vaccine.</li> <li>❖ Appropriate action in the event of an exposure to body fluids.</li> <li>❖ Procedure to follow in case of a spill or emergency.</li> <li>❖ Explanation of signs, labels and color coding.</li> </ul>		<i>Person giving training</i>

Sector Delaware Bay Initial Safety Training/Check-in		
Subject	Date	Signature
<b>Hearing Conservation (Noise)</b> Ref: COMDTINST M5100.47 <i>All personnel exposed to hazardous noise shall receive a minimum of one hour of initial hearing Conservation Training.</i> <ul style="list-style-type: none"> <li>❖ Description of the symptoms, mechanism and consequences of temporary and permanent hearing loss.</li> <li>❖ Elements of the hearing conservation program.</li> <li>❖ Proper selection, wearing and maintenance of hearing protective devices.</li> <li>❖ Identification of hazardous noise sources at the command and safe work practices to be used to minimize exposure to hazardous noise.</li> <li>❖ Description of audiometric testing which will include explanation of audiometric test results and the procedures involved in testing.</li> </ul>		<i>Person giving training</i>
<b>Asbestos Exposure Control</b> Ref: COMDTINST M6260.16A <ul style="list-style-type: none"> <li>❖ General explanation of asbestos.</li> <li>❖ Explanation of health risks.</li> <li>❖ Identification of asbestos sources at the command and safe work practices to be used to minimize exposure to asbestos.</li> <li>❖ Examples of personal protective equipment use.</li> <li>❖ Appropriate action in the event of an exposure to asbestos.</li> <li>❖ Explanation of signs and labels.</li> <li>❖ <b>Prohibition against working with/on asbestos.</b></li> </ul>		<i>Person giving training</i>
<b>Forklift/Crane/Special Purpose Vehicle (e.g., Fuel truck)</b> Ref: 29 CFR 1910.178-184 COMDTINST M11240.9(series) <ul style="list-style-type: none"> <li>❖ What vehicles the unit has access to.</li> <li>❖ Who can operate them.</li> <li>❖ The fact that no one can operate a forklift without local training.</li> <li>❖ Examples of personal protective equipment used while operating or working around forklifts/cranes/special purpose vehicles.</li> </ul>		<i>Person giving training</i>

<b>Sector Delaware Bay Initial Safety Training/Check-in</b>		
<b>Subject</b>	<b>Date</b>	<b>Signature</b>
<b>Electrical Safety Program</b> (vessel) Ref: COMDTINST M9000.6D <ul style="list-style-type: none"> <li>❖ What the hazards and safety precautions pertaining to shipboard electrical systems, equipment and personal electrical/electronic equipment.</li> <li>❖ What the procedures are to bring personal equipment on board.</li> <li>❖ What electrical equipment is prohibited on board the unit.</li> </ul>		<i>Person giving training</i>
<b>Motor Vehicle Safety</b> Ref: COMDTINST M5100.47 <ul style="list-style-type: none"> <li>❖ Local conditions and laws</li> <li>❖ Base rules</li> <li>❖ Seat belts</li> <li>❖ Motorcycle rules</li> </ul>		<i>Person giving training</i>
<b>HAZWOPER</b> Ref: COMDTINST 6260.31A <ul style="list-style-type: none"> <li>❖ First Responder Awareness               <ul style="list-style-type: none"> <li>➤ Understand the hazards of oil and other hazardous substances and the risks in a spill.</li> <li>➤ Understand what happens during an emergency involving spilled oil or other hazardous substances</li> <li>➤ Recognize the presence of oil and other hazardous substances in an emergency.</li> <li>➤ Identify hazardous substances, if possible (e.g., appearance, smell, monitoring equipment).</li> <li>➤ Understand individual role in employer's emergency response plan.</li> <li>➤ Recognize when help is needed and request assistance from a response team.</li> </ul> </li> </ul>		<i>Person giving training</i>
<b>General Safety</b> <ul style="list-style-type: none"> <li>❖ Poisonous plants</li> <li>❖ Poisonous/dangerous animals</li> <li>❖ Terrain (cliffs, trails, ditches, etc.)</li> <li>❖ Equipment used by unit.</li> <li>❖ Other evolutions – specific activities</li> </ul>		<i>Person giving training</i>

**Note:** Some training may be “Not Applicable”, depending upon the equipment and hazards at the unit.

If there are any questions about the check-in sheet or about equipment and hazards contact MLC (kse) or your detached Safety and Environmental Health Officer.

## OCCUPATIONAL MEDICAL SURVEILLANCE AND EVALUATION PROGRAM (OMSEP)



Ref: (a) Medical Manual, COMDTINST 6000.1C, Chapter 12  
(b) Safety and Environmental Health Manual, COMDTINST M5100.47(series),  
Ch. 4  
(c) OSHA, Access to employee exposure and medical records, 29 CFR 1910.1020

### 1. **GENERAL.**

- a. The Coast Guard's Occupational Medical Surveillance and Evaluation Program (OMSEP) meets the requirements of the Occupational Safety and Health Act of 1970. The Coast Guard will conform to Occupational Safety and Health Administration (OSHA) requirements codified in the Safety and Environmental Health Manual, reference (b), and the Medical Manual, reference (a).
- b. OMSEP is part of a systemic approach to exposure recognition, evaluation, and control that includes medical surveillance of exposed personnel. The OMSEP program is designed to identify work related diseases or conditions, through baseline and periodic examinations, at a stage when modifying the exposure or providing medical intervention could potentially arrest disease progression or prevent reoccurrences. The fundamental purposes of the program are to identify preexisting health conditions, provide risk specific periodic screenings, and monitor clinical laboratory tests and biologic functions suggestive of work related environmental exposures.
- c. To be enrolled in the OMSEP an employee must meet specific exposure and enrollment criteria as set forth in reference (a). Enrollments into OMSEP are typically based on specific job assignments and worker exposures. However, there are members who may meet permanent enrollment criteria. Examples include: asbestos exposure; Marine safety field activities prior to 1990; hearing loss of  $\geq 25$  dB; or exposure to known carcinogens. Enrollment questions can be answered by the MLC detached Safety and Environmental Health Officer (SEHO).
- d. Environmental health and industrial hygiene (IH) practices utilize a fundamental risk management process to anticipate, recognize, evaluate, and control physical, chemical, biological, and ergonomic hazards in the workplace. While employing



this process, personnel are identified and can be grouped by the characterized exposures. The result is an OMSEP unit enrollment profile. This profile establishes known or suspected unit personnel exposure groups. OMSEP unit enrollment profiles should be supported/justified by formal exposure assessments completed by the SEHO or Maintenance and Logistics Command (MLC-kse). Those assessments should be maintained as part of the unit OMSEP instruction. Copies of the exposure assessments are available from MLC (kse) or the detached SEHO.

- e. Every unit in the Coast Guard shall have an OMSEP unit coordinator assigned. The OMSEP unit coordinator will request member enrollments and disenrollments as needed in accordance with the OMSEP unit enrollment profile. Assistance and guidance is available from the SEHO.
- f. The OMSEP unit enrollment profile allows the second element: Medical Monitoring to perform exposure specific physical exams. As with all physical exams, results are reviewed and feedback is provided to the patient. The data can then be maintained for further analyses of exposures and diseases.

## 2. **POLICY STATEMENT.**

- a. All supervisors are to ensure that their members are aware of, and comply with, the requirements set forth in this enclosure.
- b. The Sector Delaware Bay and subunits shall designate an OMSEP Coordinator in accordance with COMDTINST6000.1B, 12.A.5.a (E-6/7 or personnel with prior experience in Safety or Occupational Health are recommended). Designated personnel shall review the OMSEP "How to Guide" and contact the SEHO for assistance in determining member enrollments. (See the OMSEP web application at <http://webapps.mlca.uscg.mil/kdiv/kseOMSEP/index.asp> for more information.)
- c. As soon as a member determines or is instructed by the command that the member has any occupational exposure which may jeopardize his/her immediate or long-term health, the member must contact the Sector OMSEP unit coordinator to discuss the exposure and/or history and potential OMSEP enrollment (per reference (a) protocols). The following steps shall then be followed in accordance with the OMSEP:
  - (1) The OMSEP unit coordinator will make a preliminary determination as to whether the exposure exceeds the medical surveillance action level (MSAL) and any applicable duration criteria.
  - (2) If so, the member will be entered into the OMSEP database under the appropriate OPFAC code and enrollment protocol.

- d. Once enrolled in the database, the SEHO or other safety and occupational health professional at MLC (kse) will review the entry and compare it against known technical data for occupational exposure and may discuss the member's exposure with the OMSEP unit coordinator and make a final determination as to the appropriateness of the enrollment.
- e. The OMSEP unit coordinator shall then notify the member of their enrollment (or disenrollment) and provide, if necessary, hardcopies of the particular protocol(s) for which they are enrolled. If necessary, the OMSEP unit coordinator will assist the member in contacting Health Services to arrange an OMSEP examination.
- f. When the member arrives for his/her OMSEP examination, the member must be actively enrolled in the OMSEP web application  
(<http://webapps.mlca.uscg.mil/kdiv/kseOMSEP/index.asp>.) **If not, they will be asked to re-schedule their examination.** No examination will take place in the absence of OMSEP protocols and exposure histories found on the OMSEP web application.
- g. Upon completion of the examination, the member will be notified of the exam results and any further treatment or referral required. Coast Guard (CG) Clinic Staff shall instruct the member of the interval until the next exam and update the database exam dates if seen in a CG Clinic. If a member is not seen in a CG Clinic the member must report to their OMSEP unit coordinator to have the exam date updated in the OMSEP web application.
- h. The OMSEP unit coordinator must conduct reviews of the OMSEP unit compliance status at least monthly. Unit status reports are available on the OMSEP web application under the reports function tab. These reports can be shared with the Command Staff, as well as individual members who are enrolled.
- i. For those members requiring only respirator clearance, the "OSHA Respirator Use Questionnaire" may be administered by the OMSEP Coordinator. If the answers to all parts of medical questions 1-8 are negative or "no", then the Coordinator may administratively clear the member without a visit to Health Services. If any single sub-question or more than one question has an affirmative answer, then the member must be cleared through Health Services.
- j. Follow-up or routine OMSEP examinations will not require the comprehensive physical exam of baseline and exit exams. They will consist of focused lab testing and examinations directed by the OMSEP protocols in which the member is enrolled.

### 3. **RISK MANAGEMENT.**

- a. Appropriate enrollment in accordance with criteria set forth in reference (a) will conserve resources and improve time efficiency of health services which will in turn enhance overall service to all members. The critical person in the OMSEP

chain is the OMSEP unit coordinator, who (with the support of the MLC Safety and Environmental Health Office) acts as the liaison between members and Health Services, using the OMSEP web application as his/her primary tool. Without a designated and actively engaged OMSEP unit coordinator, the whole system fails. It is recommended that members keep a running log (CG-5447, page 3) of known occupational exposures to facilitate the enrollment and review process with their OMSEP unit coordinator.

- b. If a Sector member receives an exposure or believes that he/she may have been exposed to a high concentration of a hazardous substance or experiences any adverse health effects, the member shall contact the servicing Medical Clinic or appropriate health providers immediately for possible care and/or testing. The member shall complete Figure 12-B-3 from reference (a), Acute Exposure Information Form, and notify their OMSEP Coordinator and detached SEHO.

4. **TRAINING.**

- a. All designated OMSEP unit coordinators shall review the OMSEP “How to Guide” and other documents located on the OMSEP web application. After reviewing those documents, contact the detached SEHO for further training assistance.
- b. Annual awareness training for all-hands can be provided by the OMSEP unit coordinator. Training templates are available on the OMSEP web application. Questions regarding OMSEP training can be forwarded to the Safety Manager, detached SEHO, or personnel at MLC (kse).

5. **UNIT ACTION ITEMS AND PROGRAM REVIEW.**

- a. OMSEP unit coordinator shall be designated and request an account through the OMSEP web application. Documentation of designation is verified by having an active on-line OMSEP account.
- b. Develop and maintain an OMSEP unit enrollment profile; request assistance from the detached SEHO if necessary.
- c. Ensure the OMSEP unit coordinator is on the check-in and check-out sheet.
- d. Review OMSEP guidance documents located on the OMSEP web application.
- e. Conduct a monthly OMSEP unit compliance status review. Review unit reports located on the OMSEP web application, notify unit personnel with past due OMSEP physicals, and provide an OMSEP compliance status report to the Command Staff.
- f. Medical support will be provided by the Sector Delaware Bay clinic.
- g. Contact the detached SEHO if you have questions or need assistance.



## PERSONAL PROTECTIVE EQUIPMENT



Ref: (a) OSHA, Personnel Protective Equipment Standard, 29 CFR 1910 Subpart I  
(b) Safety and Environmental Health Manual, COMDTINST M5100.47(Series)  
(c) Uniform Regulations Manual, COMDTINST M1020.6(Series)

### 1. **GENERAL.**

- a. This instruction describes requirements for conducting a personnel protective equipment (PPE) hazard assessment, for selection and use of PPE, and for PPE training requirements at Sector Delaware Bay. References (a) and (b) requires commands initiate and comply with a Personnel Protective Equipment Program. This program requires specific data collection, evaluation, and training.
- b. PPE cannot be the first choice to protect employees. Actions to correct the hazard through engineering controls or to reduce employee exposure to the hazard through administrative actions must be considered first. Where these are not feasible or are inadequate, use of PPE is permitted. PPE is the final line of defense for employees performing hazardous work. Lack of PPE or use of improper PPE may leave the member vulnerable to injury, illness, or death. To preclude this, it is essential that work processes be reviewed, hazards identified, risk assessed, and engineering and/or administrative controls reviewed for feasibility, and where necessary, proper PPE defined for each potentially-hazardous work process.

### 2. **POLICY STATEMENT.**

- a. The Coast Guard must furnish its employees/members, both military and civilian, with the appropriate PPE for the assigned task. PPE, including prescription eyewear is purchased using the unit's AFC 30 funds and accounted for following the guidelines found in reference (b).

**NOTE:** The eye exam for military personnel should be conducted by the servicing health

care provider, and should not be purchased with the unit's AFC 30 funds. Eye exams for civilians maybe purchased using AFC 30 funds.

- b. Reference (c), Chapter 4.D addresses safety clothing purchases. Generally, the unit must identify and document that the particular piece of PPE is required.
  - c. Attachment (2) provides guidance on PPE selection and use.
  - d. Unit furnished PPE shall be maintained at no cost to the employee/member.
  - e. Failure by an employee/member to use unit-furnished PPE when required shall be grounds for disciplinary action.
3. **RISK MANAGEMENT.** Departments and subunits should practice proper risk management procedures by clearly stating PPE requirements for safe work practices and missions. Using the Green, Amber, Red (GAR) Model should specify the proper type and use of PPE. Members should use engineering controls, administrative controls, and PPE (in that order) to mitigate hazardous conditions. PPE should be the last line of defense for the member if other engineering or administrative controls do not completely eliminate hazard.
4. **PROCEDURE.**
- a. Every member is responsible for implementing and maintaining the Sector Delaware Bay Personal Protective Equipment Program. All members of Sector departments and subunits are required to use PPE properly and encouraged make others aware of proper PPE use.
  - b. Sector Safety Coordinators (SC) at each of the departments and subunits are designated as PPE coordinators. SC's are responsible for the implementation and maintenance of this program.
  - c. The PPE Coordinator shall, in cooperation with department heads and supervisors, select appropriate PPE. A hazard work assessment shall be updated to reflect new or changed equipment or work processes, hazard assessments, and or PPE requirements. A hazard assessment (a guide to PPE Hazard Assessment) may be found at the following OSHA internet site: <http://www.osha.gov/Publications/osh3151.html>.
  - d. The PPE Coordinator shall, in cooperation with department heads and supervisors, ensure PPE is maintained in a clean and serviceable condition. PPE, when not in use, shall be properly stored in a location that will protect it from damage (e.g., locker, rack, or shelf designated for such storage). The shop supervisor or PPE owner shall ensure that PPE is cleaned and maintained in accordance with manufacturer's instructions. In addition, eye protection shall be maintained in a clear state. Eye protection with scratched lenses (to the point of obscuring vision) shall be replaced or repaired. Personnel finding PPE in disrepair shall turn it in to their supervisor for repair or replacement.
  - e. The PPE Coordinator shall assist supervisors in training personnel in use of PPE, on request.

- f. Contact the Sector Delaware Bay Safety Manager or MLC detached Safety and Environmental Health Officer (SEHO) for additional assistance.
  - g. Supervisors shall support and/or recommend PPE requirements for members. Supervisors shall assist unit PPE Coordinator in identifying hazards, assessing risk, and selecting appropriate PPE. Train personnel in PPE use and that required PPE is available and in satisfactory (clean and in good repair) condition.
  - h. No personnel may be assigned to use, or may use, any tool or equipment prior to being trained on that equipment or tool. The PPE Coordinator, in cooperation with the department heads and supervisor, shall conduct PPE training, appropriate for each individual's job assignment and for each piece of equipment.
- 5. PPE GUIDELINES.** Attachment (2) provides technical details of commonly required PPE to assist divisions and units in identifying PPE that is suitable for the risks identified.

Attachment: (1) SECTOR DELAWARE BAY PPE USE HAZARD ASSESSMENT TABLE  
(2) PPE USE GUIDELINES

Attachment: (1)

**SECTOR DELAWARE BAY PPE USE HAZARD ASSESSMENT TABLE**

Shop, Area, or Work Process	Machine or Equipment	Hazard	PPE Required
<b>Logistics-Carpenter Shop</b>	Drill press	Eye	Safety goggles or safety goggles <b>plus</b> face shield.
	Lathe	Eye and torso	Safety goggles or safety goggles <b>plus</b> face shield; no loose clothing
	Paint/Varnish area	Respiratory and eye	Respirator with organic vapor cartridge for brush-applied varnish. See Respiratory Protection Coordinator for other paints. Splash-proof safety goggles or safety goggles <b>plus</b> face shield
	Portable Drill	Eye and hearing	Safety goggles or safety goggles <b>plus</b> face shield; hearing protection (with some drills and materials, hearing protection may not be required)
	Table Saw	Eye and hearing	Safety goggles or safety goggles <b>plus</b> face shield; hearing protection
	Surface Planer	Eye and hearing	Safety goggles or safety goggles <b>plus</b> face shield; hearing protection
	Portable Router	Eye and hearing hazard	Safety goggles or safety goggles <b>plus</b> face shield; hearing protection
	Hammer	Eye	Safety goggles or safety goggles <b>plus</b> face shield
<b>Logistics-Metal Shop</b>	Arc Welding Machine	Eye, hearing, and ear injury (from noise or hot metal)	Safety goggles/welding helmet with appropriate leathers
	Grinder	Eye and hearing hazard	Safety goggles or safety goggles <b>plus</b> face shield; hearing protection
<b>Prevention-Marine Safety Activities</b> (Port State Control Boardings)	Vessel engine rooms and overhead	Skin, hearing, eye, hands, feet, head	Coveralls, hearing protection, safety goggles, leather gloves, safety shoes, flashlight, hardhat
<b>Prevention-Marine Inspections</b>	Vessel spaces and shipyards	Skin, hearing, eye, hands, feet, head	Coveralls, ear plugs, safety goggles, leather gloves, safety shoes, flashlight, hard hat
<b>Prevention-Facility/Container Inspections</b>	Container yards, cargo hazards, confined spaces, traffic	Skin, hearing, eye, hands, feet, head	Coveralls (other Level D), ear plugs, safety goggles, leather gloves, safety shoes, flashlight, hard hat
<b>Prevention-Investigations</b>	Vessel, cargo and shipyard spaces	Skin, hearing, eye, hands, feet, head	Coveralls (other Level D), ear plugs, safety goggles, leather gloves, safety shoes, flashlight, hard hat
<b>Response-Incident Management</b>	Spill, pollution, hazmat	Skin, hearing, eye, hands, feet, head	Coveralls (other Level D), ear plugs, safety goggles, leather gloves, safety shoes, flashlight, hard hat
<b>Response-Law Enforcement/Port Security</b>	Weapons, vessel spaces, engine rooms, container yards, cargo hazards, confined spaces, traffic	Skin, hearing, eye, hands, feet	Bulletproof vests, coveralls (other Level D), ear plugs, safety goggles, leather gloves, safety shoes, flashlight

I \_\_\_\_\_ certify that this PPE assessment is complete and accurate to the best of my knowledge.

SignatureNameDate



Attachment: (2)

### **PPE USE GUIDELINES**

1. **Eye and face protection** is often specified incorrectly. Refer to American National Standards Institute (ANSI) Standard **Z87.1-2003** for correct use. Where eye and face protection is required for workers, visitors in the area must use PPE that provides equivalent protection. Coast Guard requires eye protection to meet American National Standards Institute (ANSI) Standard Z87.1-2033. On the MLC PAC (kse) cgweb site (<http://cgweb.mlc pac.uscg.mil/mlcpackse/>), at the Personal Protective Equipment link there is a chart from ANSI that can be used to assist in the selection of eye and face PPE (<http://cgweb.mlc pac.uscg.mil/mlcpackse/Documents/EyeFaceProtectionChart.pdf>). Eye protection must meet the following minimum requirements:
  - a. Provide adequate protection against particular hazard.
  - b. Be reasonably comfortable.
  - c. Fit snugly without interfering with wearer's movements or vision. Proper fit is crucial because poor fitting protection provides little, if any, protection.
  - d. Be durable.
  - e. Be capable of being disinfected.
  - f. Be easily cleaned, kept clean, and in good repair.
  - g. Users should understand the limitations or precautions listed by the manufacturer.
2. **Corrective Eye Wear.** There are several options for workers who wear corrective lenses and must use eye protection:
  - a. Protective lenses with correction ground into the lenses.
  - b. Goggles worn over the corrective glasses. The goggles must not disturb the adjustment of the corrective lenses.
  - c. Corrective lenses mounted behind protective goggle lenses.
  - d. Prescription safety spectacles meeting ANSI Standard **Z87.1-2003** for industrial wear shall be provided at Coast Guard expense to personnel working in an eye-hazard environment (e.g., welders, machinists, mechanics, riggers, and grinders) as follows:
  - e. Use the current prescription, if adequate. If the employee's current prescription is inadequate, a new refraction and prescription shall be furnished at Coast Guard expense.
  - f. Personnel who have been furnished prescription safety spectacles may be required to wear additional appropriate eye protection when actually engaged in increased eye-hazard procedures such as welding, cutting, grinding, chipping, or refurbishing batteries.
3. **General Eye Hazard Rules**
  - a. Nonconductive and nonflammable spectacles shall be issued to personnel who work around electrical circuits or with flammable or explosive substances.
  - b. Personnel not required to wear safety spectacles as a part of normal duties shall wear appropriate eye protection when entering an eye-hazard environment or when engaged in eye-hazard procedures. The employer shall make appropriate temporary issue safety spectacles or goggles available.

- c. Identified eye-hazard workplaces shall have posted at each entrance conspicuous signs marked as follows (in red letters):

**EYE-HAZARD AREA**  
**Wearing of Eye Protection Required**

**4. Eye Wash Stations**

- a. In addition to adequate eye and face protection, OSHA requires eye wash stations in all potentially eye-hazardous work areas.
- b. Emergency eye wash stations must be located within 10-feet, straight line travel, of a highly corrosive eye hazard (e.g., batteries). Less hazardous materials permit travel up to 25 feet. Workers must be able to access the eyewash within ten seconds. The emergency eyewash must deliver 0.4 gallons per minute for 15 minutes according to American National Standards Institute (ANSI) Standard **Z358.1-1998**.
- c. Fixed eyewashes must be flushed weekly and inspected monthly. Portable eyewash stations must be maintained according to the manufacturer's instructions and inspected monthly.

**5. Head Protection**

- a. Required protection varies with the hazard.
- b. Head protection must be labeled that it complies with American National Standards Institute (ANSI) Standard Z89.1-1997. Hard hats are classified as:  
Class A: General service, Protects against impact hazards with limited voltage protection. Typical users are workers in mining, construction, shipbuilding, tunnel, lumber, and manufacturing industries. This type is most often used in Coast Guard operations.  
Class B: Utility service, high voltage helmets. This class of helmet protects the head from impact and penetration, as well as from high-voltage shock and burn. High voltage electrical workers use these helmets extensively. Most Coast Guard personnel will not use class B helmets.  
Class C: Special service helmets. Provide lightweight comfort and impact protection. Typically made from aluminum, Class C helmets offer no protection from electrical shock or corrosion. Typical Class C helmet users include construction, manufacturing, oil field, refinery, and chemical plant workers.

**6. Foot Protection**

- a. Military issue safety toe shoes will be issued to active duty and reserve Coast Guard personnel in accordance with Unit Allowance Lists.
- b. Military issue safety toe shoes or commercially procured shoes meeting American National Standards Institute (ANSI) Standard **Z41 Class 75**, shall be furnished to civilian employees when:
  - (1) The employee is exposed to operations hazardous to feet at least 30% of the time; or
  - (2) The employee's occupation is considered to be hazardous to feet, e.g., welders, machinists, mechanics, and material handlers.
  - (3) The employee's position or job description identifies the position/job as requiring foot protection.

**NOTE 1.** Employees who are exposed less than 30% of the time and temporary employees shall be furnished appropriate foot guards for wear during periods of exposure. If this is infeasible, employees shall be furnished with safety shoes.

**NOTE 2.** Special purpose safety shoes (e.g., steel handlers, welders, and high voltage electricians) are authorized, as appropriate.

7. **Respiratory Protection.** Respiratory protection shall be IAW the Respiratory Protection Program enclosure of this instruction.
8. **Hearing Protection.** Hearing protection shall be IAW Hearing Conservation Program enclosure of this instruction.
9. **Torso and Leg Protection.**
  - a. Many hazards can threaten the torso: temperature extremes, hot metal or liquid splashes, impacts, cuts, abrasions, acids, and radiation. A variety of protective clothing can protect the torso: vests, jackets, aprons, coveralls, and full-body suits. Torso protectors are made from a variety of materials ranging from wool and specially treated cotton to leather and rubber.
  - b. PPE must be constructed from materials specifically designed to protect against exposure to the particular hazard. This is especially important when chemical hazards are involved, since these compounds can quickly corrode certain materials. Refer to the manufacturer's guidelines when selecting protective materials for these situations. Always inspect protective clothing before each use for proper fit, maintenance, and function.
  - c. One of the most important types of PPE, often overlooked, is "leggings" for chainsaw use and similar work. Specialty leggings provide a tough mechanical barrier against cutting teeth and blades.
10. **Hand Protection.** Hand protection includes gloves, hand pads, sleeves, and wristlets, but gloves are the most common form of hand protection. Consider dexterity, exposure duration and frequency, durability, and the potential for entanglement of the hand protection in mechanical parts, when choosing hand protection. There are five basic categories of gloves typically used in the Coast Guard: chemical resistant, general-purpose, electrical, medical and special purpose. Gloves are further differentiated within each category by the materials from which they are constructed: latex, nitrile, butyl, neoprene, polyvinyl chloride, polyvinyl alcohol, etc. To choose the correct glove, ask some basic questions:
  - a. To what hazards will the wearer be exposed?
  - b. What is the degradation level/permeation rate of the glove?
  - c. What tasks will the user be performing?
  - d. Is a special grip required?
  - e. Is good dexterity important?
  - f. Is arm protection required?
  - g. Will the arm be exposed to splashing or immersion? If so, how much of the arm should be protected?
  - h. Does the glove size ensure optimum wear as well as employee satisfaction and productivity?

- i. Could the glove itself create a hazard (dermatitis caused by unlined or untreated gloves, entanglements with mechanical parts)?
- j. Does the glove material meet the recommendations of the MSDSs for the chemical hazards of concern.

**11. Electrical Protective Devices.**

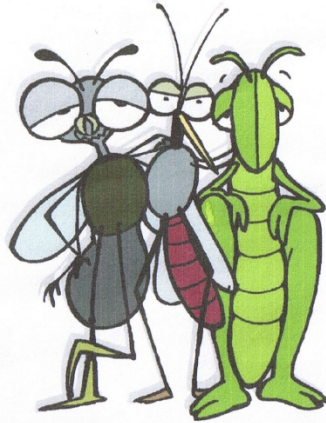
- a. Rubber insulating blankets, matting, covers, line hose, gloves, and sleeves to protect against: accidental shock, electrocution, burns or other electrical injuries are required for many evolutions, especially work by electricians or electronics technicians. Maintain electrical protective equipment in safe, reliable condition. Electrical protective equipment shall be subjected to periodic inspections and testing IAW 29 CFR 1910.137 (OSHA) (<http://www.osha.gov/index.html>, Laws and Regulations).
- b. In addition to the insulating materials noted above, protection against arc flash is required wherever this hazard exists, usually high voltage or work on live circuits (the latter is not permitted, except in rare cases). See National Fire Protection Association 70E, Standard for Electrical Safety in the Workplace, and 29 CFR 1910.333 (OSHA), for details.

**12. Other PPE.** Other PPE shall be furnished as required by the job, process, or work environment. The following rationale should be applied when making a determination whether to furnish a particular item of clothing or equipment:

- a. The employee's safety and health may be protected by the wear or use of the item of clothing or equipment;
- b. Engineering or administrative controls are not feasible.
- c. It is not reasonable to expect a person to own such clothing or equipment;
- d. It is not reasonable to expect a person to expend personally-owned clothing or equipment in government service.

**13. Personal Wear Items.** Items of personal wear that are recovered after use will be inspected, cleaned, and sanitized before being reissued. Safety toe shoes, ear plugs, and prescription eyeglasses are not recoverable once issued.

## INTEGRATED PEST MANAGEMENT



Ref: (a) Safety and Environmental Health Manual, COMDTINST M5100.47  
(b) USEPA Restricted Use Classification, 40 CFR Subpart I, 152.160

### 1. **GENERAL.**

- a. Pest management is important to the health and well-being of Coast Guard personnel and is needed to protect property and resources. Pest management is defined as the control or mitigation of insects and other arthropods, snails, slugs, fungi, weeds, birds, mammals, plant disease agents, and other pest organisms where their presence results in unacceptable consequences.
- b. This instruction is intended to minimize the reliance on chemical pest control procedures and techniques through an integrated pest management approach using good sanitation practices as the primary means for prevention and control. This instruction is also intended to minimize adverse health effects of pesticides. References (a) and (b) provide information on pest management.

### 2. **POLICY STATEMENT.**

- a. Sector Delaware Bay departments and subunits shall tailor this general Integrated Pest Management (IPM) program to specific unit facilities and specifications. This written program is intended to be a baseline pest control program that Safety Coordinators use to determine prudent pest management procedures. All policy and procedures shall be consistent with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Environmental Protection Agency regulations, and Occupational Safety and Health Administration standards.
- b. Sector Delaware Bay personnel should contact Engineering for information about existing pest management contracts, questions regarding approved pest control techniques, or guidance on pest problems.

3. **RISK MANAGEMENT.**

- a. Departments and subordinate units shall develop unit specific IPM strategies. It is the policy of Sector Delaware Bay to establish and maintain safe, efficient, and environmentally sound IPM programs to control pests that may adversely affect health or damage structures and property. IPM is a comprehensive approach to pest control and prevention that considers all available strategies including engineering, work practices, biological, and chemical techniques.
  - (1) Non-chemical pest control techniques such as good sanitation practices and the elimination of pest harborage and access shall be instituted prior to implementing chemical control measures. Occupants of buildings, including family housing, play a critical role in an effective pest management program.
  - (2) The use of preventive pest control (periodic pesticide treatments) is prohibited unless it is based on pest sampling or historically documented pest problems that are uncontrollable by non-chemical methods (e.g., seasonal pest problems).
  - (3) Control of nuisance pests by chemical means are prohibited unless approved by the respective MLC (kse). Nuisance pests are those that do not present a public health threat or do not cause damage to property.

4. **PROCEDURE.**

- a. The Sector Delaware Bay Hazardous Material Coordinator and each subunit shall maintain a log of all pesticide applications including general use pesticides. The log must contain name of applicator, chemical used, quantity used, date of application, location, targeted pest and description of the pest problem. The log shall be maintained indefinitely. All non-chemical pest control activities employed in the unit integrated pest management program must also be documented. Pest control logs shall be made available to MLC (kse) Safety and Environmental Health personnel, when requested.
- b. Sector personnel and/or Commercial contractors performing pest control work shall comply with all certification, licensing, registration and use requirements applicable in the legal jurisdiction in which the work is performed. All pest control services shall use an IPM approach. In addition to the pesticide application log, a copy of the certification and/or license of all applicators and any service contract(s) must be maintained on file. Sector personnel shall maintain material safety data sheets (MSDS) for all pesticide products stored or applied and contractors shall provide copies of MSDSs for all products they apply.
- c. Pesticides shall be properly stored, mixed, and loaded in suitable facilities. Storage shall not degrade the material. Workers, the public, and the environment shall not be threatened by exposure under routine conditions of use and storage or

in the event of an accidental spill. Pesticides shall be secured when unattended to prevent tampering. Subunits must include pesticides in their Spill Prevention Control and Contingency Plans.

- d. Before handling any pesticide, read all label directions for use and precautions. Review the MSDS and any other product information sheets that may be available. It is required that the products be used according to the manufacturers' specifications.

## **WEAPONS OF MASS DESTRUCTION AND CHEMICAL, BIOLOGICAL, RADIOLOGICAL SAFETY**



- Ref:
- (a) Safety and Environmental Health Manual, COMDTINST M5100.47
  - (b) Weapons of Mass Destruction and Catastrophic Hazardous Material Releases, COMDTINST 3400.3(series)
  - (c) Guidance for Actions When Encountering Radioactive Materials during Vessel Boardings, Cargo Inspections, and other Activities, COMDTINST 16600.2 (series)
  - (d) Operational Risk Management, COMDTINST 3500.3(series)
  - (e) Maritime Law Enforcement Manual, COMDTINST M16247.1(series)
  - (f) Marine Safety Manual, COMDTINST M16000.6(series)

### **1. GENERAL.**

- a. The purpose of this program is to establish the policy, procedures, and guidance for protecting Sector Delaware Bay members in relation to the threat and hazards associated with Weapons of Mass Destruction (WMD) and radioactive materials. This document outlines the Coast Guard's policy on WMD and Chemical, Biological, Radiological (CBR) agents, and how Sector Delaware Bay members will respond and protect themselves in the event of a WMD/CBR incident. This enclosure does not contain all available information on WMD/CBR, therefore all Sector members should read the above references to ensure familiarity with the requirements, general WMD/CBR knowledge, and PPE. Sector Delaware Bay's enclosure on Radiation Detection Safety, enclosure (22), also provides additional information for Sector personnel.
- b. Enclosure (22) of this program outlines the guidance and procedures for Sector Delaware Bay members using approved radiation detection devices during vessel boardings, inspections, and other field activities, and detecting radiation and reacting positively when an alarm indicates radioactive materials.

### **2. POLICY STATEMENT.**

- a. Although the United States has been aware of WMD/CBR threats and hazards for many years, the events of September 11, 2001, have highlighted the need to develop policies and guidelines to detect, interdict, and counter these threats. If at any time Sector Delaware Bay personnel suspect or determine that a WMD or



hazardous material release has occurred, they shall immediately leave the area or space of contamination, and notify the Sector Command Center. Members should establish a defensive posture and take self-defense actions.

- b. Sector Delaware Bay personnel will not conduct any operations in an area suspected of contamination until the Federal On-Scene Coordinator (FOSC) issues the “Clear” determination. Sector members outside of the contaminated area may exercise command and control through the unified command. A specific geographic area will be determined as “Clear” when site characterization and monitoring have determined that the level of contaminant(s) in that area are within the parameters for PPE at level D (working uniform or coveralls, gloves, safety boots, safety glasses, and/or hard hats). In all instances, Sector Delaware Bay members will follow reference (b) concerning WMD/CBR events.
- c. Monitoring for radioactive material cargoes, including those not associated with specific, declared shipments, will be conducted in conjunction with normal field activities that routinely place Sector Delaware Bay members in close proximity to cargo shipments (e.g., Law Enforcement boardings, Port State Control boardings, Harbor Patrols, inspections of vessels and facilities, container inspections, spill response and marine investigations). Approved radiation detection devices will be used in accordance with reference (c) and enclosure (22).

### **3. RISK MANAGEMENT PRINCIPLES.**

- a. Prior to the commencement of missions and daily activities, Sector Delaware Bay personnel and subunits shall apply proper operational risk management as outlined the Sector’s Operational Risk Management policy, enclosure (24), and/or reference (d). Pre-mission briefs shall include at a minimum a discussion of the hazards expected, control methods, paths of escape, an inspection of PPE, and a review of shelter-in-place procedures. PPE used should be reviewed and inspected by all members of the team or unit.
- b. Likely domestic WMD threats that Sector Delaware Bay personnel may encounter consist of fire, explosions, the intentional release of hazardous materials or a crude radiological device, or radiological dispersant device (e.g., “dirty bomb”). Sector members should use sound judgment and safe work practices during all activities, but more so if a credible threat is identified with this area of responsibility.

### **4. WMD PROCEDURES AND PPE.**

- a. Certain procedures are used to acknowledge or become aware of a WMD incident. There are many early-warning signs, besides the specific detection equipment listed below, which indicate the use of WMD. Sector members should be familiar with certain signs indicative of a WMD incident. These signs can include: unusual numbers of people developing illnesses in the same area; sick or dying surrounding wildlife; people complaining of blisters, nausea, or disorientation (including

convulsions, difficulty breathing, other irregular symptoms), explosions with liquid droplets remaining; abandoned aerosol sprayers near sick persons; and unexplained mists or hazes. Self-protection is extremely important and Sector members should follow simple steps to include: increase distance from hazards (known or potential), reduce time of exposure, use shelter, and stay upwind, uphill, and upstream.

- b. Terrorists have a wide range of WMD choices, which range from simple to very complex weapons and agents. WMD incidents usually include four basic categories: conventional weapons and explosives, chemical agents, biological weapons, and nuclear or other radiation devices. For specific information concerning these categories, use reference (b).
- c. It is imperative that Sector personnel know the limitations and characteristics of their monitoring instruments and other PPE. Regular training and regular use of the detection equipment in the field during daily activities is essential. Detection devices for WMD/CBR include the Gas Alert Micro and the Personal Radiation Detector (PRD). Sector personnel should use Gas Alert four gas meters on a regular basis. This meter detects oxygen, hydrogen sulfide, carbon monoxide, and combustible atmospheres and is required to be worn during specific activities, as described in reference (b). Sector personnel should follow standard-use procedures and maintain periodic calibration of the devices. The PRD is a small device used for detecting gamma and neutron radiation. A detailed description can be found in reference (c).
- d. PPE for Sector Delaware Bay personnel includes two items: the Emergency Escape Breathing Device (EEBD) and the contents of the WMD Kit ("Black Bags"). The EEBD shall be carried by personnel conducting law enforcement and marine safety boardings, in accordance with reference (e) and (f). The EEBD must be readily accessible to personnel and used for emergency situations requiring emergency escape, and will supply approximately 10 minutes of breathable air. The WMD Kits contain specific items designed to provide immediate and short-term skin and respiratory protection for the individual. The WMD Kit is provided as standard PPE when personnel are confronted with contaminants. The kit includes the following equipment that shall be donned in the following order:
  - (1) Air purifying respirator and filters;
  - (2) Tyvek F suit;
  - (3) Rubber boots;
  - (4) Rubber gloves;
  - (5) M-291 Skin Decontamination Kit. The boots, gloves shall be made fast to the suit by Duct Tape provided in the black bag.

e. See reference (b) for decontamination procedures and details regarding listed PPE.

**5. RADIATION DETECTION PROCEDURES AND PPE.**

a. A major component of the Coast Guard's Maritime Homeland Security mission involves the interdiction of any attempt to use waterways or transportation systems to smuggle WMD materials into the country and/or cause a WMD event. One area of concern is the use of radiological and/or nuclear materials. Whether smuggling nuclear materials or detonating Radiological Dispersal Device (RDD) (e.g., dirty bomb), Sector Delaware Bay members should be aware of this possibility in the post-9/11 world. Although there are plenty of legitimate cargoes that emit radiation (see reference (c) for a full list), Sector members should investigate the cargo manifest before and during a boarding/inspection to ensure compliance with U.S. laws and regulations. The activation of a radiation detector's alarm does not automatically imply a hazard or violation. However, the presence of ionizing radiation could be associated with contraband material that is part of an RDD, Improvised Nuclear Device (IND), or other WMD. Three types of PPE that make up Sector radiation detection equipment are described below. They are organized into Level I and Level II detection equipment.

b. Detecting radioactive emission is very important, but measuring its intensity and rate of exposure (dose) is essential to assessing the impact on boarding personnel and safety. The amount of radiation an individual receives is called a "dose" and is measured in Roentgen Equivalent Man (Rem) or Sieverts (Sv) (1 Sv=100 Rem). The dose rate is normally measured in Rems. The average U.S. person accumulates a dose of one Rem (1,000,000  $\mu$ rem) from nature and medical sources every three years. The occupational exposure level for radiation is 5 Rems (5,000,000  $\mu$ rem) per year. Personnel should be aware of levels above 13,000  $\mu$ rems in any given space or area.

c. Level I detection is defined as first level detection and is accomplished with the PRD. This pager is used for daily operations and detects gamma and neutron emissions. The pager alerts the member and provides the opportunity to egress the space or area and establish a defensive posture. Sector personnel should not attempt to use the pager to localize or "zero-in" on the source of radiation. At least one member of the following teams/activities should carry the Level I PRD:

- (1) Marine Inspectors conducting vessel inspections
- (2) Port State Control teams
- (3) High Interest Vessel teams
- (4) Recreational Boating Safety Inspections

- (5) Commercial Fishing Vessel Safety Inspections
  - (6) Container Inspection teams
  - (7) Spill response or hazmat release activities
  - (8) Marine Investigations
  - (9) Harbor Patrols
  - (10) Law Enforcement boardings or inspections normally performed by Sector Delaware Bay
- d. Level II is defined as localization and characterization. Gear includes the Handheld Isotopic Identifier (Identifier-U) and the Backpack Wide-Area Search Detector (Rad Pak). Level II trained personnel will be deployed based upon intelligence and readings from Level I teams. USCG personnel operating Level II Radiation (RAD) Detection equipment are required to complete the Level II RAD training course. This course is held several times throughout the year at the Maritime Law Enforcement Academy in Charleston S.C. Pre-requisites for attending this course are; (1) members must be E-4 or above, and; (2) members must have at least one year remaining at their unit or be transferring to a unit that conducts radiation detection. To apply for this training, submit an Electronic Training Request via Direct Access to the Training Quota Management Center (TQC). After training, Level II qualified personnel are required to maintain proficiency by using Level II equipment on a random basis every 12-14 days. This use by personnel will ensure familiarity with gear and raise the level of experience of members. A log will be maintained by Safety Coordinators indicating the date, personnel using equipment, area where it was used and any special notes (sources of ambient radiation or spaces that had higher than normal radiation levels).
- e. The Handheld Isotopic Identifier or the "Identifier-U" is authorized for use by Level II trained personnel and shall normally be used in situations when a PRD has alarmed the boarding team. Furthermore, the Identifier-U shall be used when the boarding team is unable to verify the legitimacy of the source(s) (cargo manifest or crew explanation). The equipment has the capability to detect and provide isotopic identification of both gamma and neutron producing radiological source material. It can also be used to zero-in on the location of the radiation source. The equipment has the capability to save information and be downloaded and emailed to experts.

- f. The Backpack Wide-Area Search Detector or “Rad Pak” is another Level II gear that is used for conducting searches of large areas for the presence of radiological material. An example of this is a container yard, shipyard, waterfront facility or vessel. The Rad Pak will normally be employed when detailed intelligence indicates a credible threat to a specific port, facility, or vessel. Sector personnel shall also use the Rad Pak on a random basis every 12-14 days (see 5.d for requirements).

**PRE-MISHAP PLAN**

---

# **PLAN FIRST!**

---

Ref: (a) Safety and Environmental Health Manual, COMDTINST M5100.47(Series)

1. **GENERAL.** Everyday members of Sector Delaware Bay perform a wide range of missions across the unit's area of responsibility. Many of those missions are inherently dangerous, but necessary to maintain the safety of the port and the public at large. During the course of their duties, Sector Delaware Bay personnel may be faced with an unplanned incident or off-duty event that causes minor injuries, or in a worse-case scenario, severe harm or death. The definition of mishaps, therefore, is described as an accident or unfortunate event. A majority of mishaps can be prevented, however, through training or risk management; moreover, an effective mishap plan can secure and document the event(s) for future lessons learned in order to prevent it from happening again.

2. **POLICY STATEMENT.**

- a. This instruction establishes guidance for personnel responsible for mishap response and reporting at Coast Guard Sector Delaware Bay. Reference (a) provides additional guidance.
- b. All members should be aware of Sector Delaware Bay mishap policies and know the how to report a mishap or High Potential (HIPO) incident regardless if it occurred on or off duty.
- c. Sector Delaware Bay subunits shall maintain a mishap plan specific to the subunit's missions and geographic area.

3. **RISK MANAGEMENT.**

- a. All supervisors, division heads, branch chiefs and department heads shall ensure compliance when a reportable mishap occurs involving, Active Duty (on or off duty), Reserves on active duty, Civilian Employees, and Auxiliary Coast Guard members under orders, and Contractors working on Coast Guard installations. All personnel should follow safe work practices, training procedures, and risk management analysis in order to minimize the occurrence of a mishap or accident.

4. **PROCEDURE.**

- a. Notification of chain of command concerning the occurrence of a mishap on or off duty should be initiated immediately upon securing the safety of the members and/or resource (e.g., small boat, cutter, and vehicle).

- b. Sector Delaware Bay personnel shall, if possible, preserve evidence relating to the incident. Members should secure the mishap scene, collect and secure any information (e.g., maintenance records, daily logs, electronic memory storage units, or reports), which may hold clues to the cause of the mishap.
- c. The following procedures shall be followed, as appropriate, when a mishap is reported:
  - (1) Responding personnel shall conduct preliminary mishap investigation and analysis and make an initial determination as to the severity of the mishap (see attachment (1) for classification criteria, or reference (a) for additional guidance).
  - (2) Responding personnel shall contact their appropriate chain of command.
  - (3) The Safety Officer shall report a report all on duty Class A & B mishaps to Commandant at the headquarters command center via telephone at (202) 372-2100 after the unit's local chain of command has been notified. After normal business hours Sector Delaware Bay Command Center staff shall immediately report all on duty Class A & B mishaps to Commandant after the unit's local chain of command has been notified.
  - (4) A preliminary message shall be sent for all Class A & B mishaps as per reference (a) within 12 hours.
  - (5) Class C & D mishap reports shall be initiated by the first line supervisor and submitted to the division/department head at the Sector departmental level, or the appropriate subunit Commanding Officer/Officer in Charge within 10 days of the mishap. At the department level, the Safety Officer shall be the command level reviewer before release to MLC. At the subunit level the Safety Officer shall offer whatever assistance necessary in regards to mishaps and investigations, but the Commanding Officer/Officer in Charge shall remain the command level reviewer and releaser to MLC.
  - (6) Reporting format shall be in accordance with reference (a) for all mishaps. The recommended method of mishap reporting is the E-Mishap System:  
<http://webapps.mlca.uscg.mil/KDiv/kseMISREP/Default.asp>
- d. Investigation of mishaps.
  - (1) Commandant will assign a Mishap Analysis Board (MAB) to investigate most class A & B mishaps. Every MAB shall produce a Mishap Analysis Report (MAR) in accordance with reference (a).

- (2) MABs are not normally assigned for off duty personnel, not on Coast Guard property, involved in a class A or B mishap, (e.g., private vehicle, sporting event, hobby, or authorized outside employment). Appropriate local authority (e.g., local police or fire department) normally will investigate these mishaps. Unit shall produce MAR in accordance with reference (a) and incorporate local authority findings in the report unless directed otherwise by Commandant. Subunits and the Safety Officer may also contact the detached Safety and Environmental Health Officer or MLC (kse) for assistance.
- (3) All class C & D mishap shall be analyzed and reviewed by the chain of command. The Sector Delaware Bay Safety Committee shall review mishaps at regular or emergency meetings and shall serve as the unit MAB. Subunit Safety Committee meetings shall also review and recommend ways to minimize or eliminate future related mishaps.

Attachment: (1) MISHAP DEFINITIONS

(2) REPORTABLE/NON-REPORTABLE MISHAPS



Attachment: (1)

## **MISHAP DEFINITIONS**

### **Class A**

1. The cost of reportable damage is \$1,000,000 or greater.
2. An injury or occupational illness results in a fatality or permanent total disability within the jurisdiction of paragraph 3-F-2 of COMDTINST 5100.47
3. Coast Guard cutter, small boat, or aircraft is missing, abandoned, recovery is impossible or economically impractical, or it is stranded for 24 hours or more.

### **Class B**

1. A nonfatal injury and / or occupational illness results in permanent partial disability.
2. Three or more personnel are inpatient hospitalized.
3. The resulting property damage is \$200,000 or more, but less than \$1,000,000.
4. For small boats 30 feet in length or greater, damage is \$50,000 or more.
5. For small boats less than 30 feet in length, damage is equal to, or greater than, half of the replacement cost of the boat.

### **Class C**

1. A nonfatal injury of occupational illness which results in any loss of time from work beyond the day on which it occurred.
2. The property damage is \$10,000 or more, but less than \$200,000.
3. A person falls overboard accidentally.
4. Any grounding, capsizing or rollover that does not meet higher reporting criteria.

### **Class D**

1. A nonfatal injury or occupational illness that does not meet the criteria a class C mishap (no lost time).
2. The property damage is less than \$10,000.
3. An accidental firearm discharge occurs, or an electric shock occurs that does not meet the criteria of a higher classification.

Attachment: (2)

**REPORTABLE/NON-REPORTABLE MISHAPS**

1. Reportable shore mishaps.

- a. Damage to Coast Guard facilities including shore facility, vehicle, or other equipment.
- b. Damage to other than Coast Guard facilities as a result of Coast Guard Operations.
- c. Coast Guard military members injured or killed, either on or off duty.
- d. Coast Guard Reserve military members injured or killed when on active duty status, either on or off duty.
- e. Coast Guard civilian employee injured or killed while performing Coast Guard related work. Any occupational injury or illness reported on a form CA-1 or CA-2 to the office of Workers Compensation or Department of Labor is a mishap.
- f. Coast Guard Auxiliarist injured or killed while under orders.
- g. Coast Guard Auxiliary facility damaged while it is operating under orders.
- h. Visitors on a Coast Guard facility or other civilian personnel harmed as a result of official Coast guard operations.
- i. Civilian contractors working on Coast Guard property.
- j. A Coast Guard member who develops an illness which can be ascribed to a immediate (acute) or long term (chronic) occupational exposure. For illness resulting from chronic exposure, e.g., hearing loss, a mishap report should be initiated when the illness is first diagnosed.
- k. High Potential (HIPO) mishaps, as described under reporting of vessel mishaps below, may also be reported for shore mishaps.

2. Non-reportable shore mishaps.

- a. Incidents not included as mishaps within the jurisdiction of the Coast Guard safety officers involve:
  - (1) Civilian contractors at other than Coast Guard facilities, when working on a piece of Coast Guard equipment, such as a vessel or aircraft, when it does not have a crew in attendance.

- (2) Suicide, homicide, or other malicious and intentional acts that result in physical harm or property damage.
- (3) Intentional damage or injury including damage caused by: enemy or hostile action, malicious acts of sabotage or arson, law enforcement action ordered by competent authority, intentional destruction or damage for research and development purposes. All these events would be included in an administrative report.
- (4) Conditionally Predicated Damage or Damage Which Cannot Reasonably Be Prevented. Damage from overwhelming storms, range or forest fires, and or floods. This exclusion does not apply to injuries or facility damage for instances when environmental loading did not exceed the structural design strength.

3. Vessel reportable mishaps.

- a. Any event meeting the criteria listed above for reportable mishaps, and
- b. Events That Are Reportable Even Through No Injury, Occupational Illness, or Property Damage is Sustained. Class D (HIPO) mishaps are incidents with a high potential for a loss to people, property, equipment, environment, or mission capabilities that result in NO PERSONNEL INJURY or NO DAMAGE. These Class D (HIPO) mishaps teach valuable lessons and shall be shared to prevent losses from being suffered by the service through lack of risk awareness. Reporting procedures are outlined in reference (a). The following are examples of reportable events. This list is not all-inclusive.
  - (1) Emergency breakaway is carried out while conducting towing, underway replenishment, or fueling at sea.
  - (2) Near collision or grounding of a named cutter 65 feet or larger.
  - (3) Forced docking, towing, or anchoring of a named cutter 65 feet or larger caused by a system/component malfunction or failure.
  - (4) Fouled propellers of a named cutter 65 feet or larger.
  - (5) Events not reportable as vessel mishaps.
- c. Any event meeting the criteria listed above is a reportable mishap.

- d. Normal Wear and Tear. Damage, failure, or malfunction of equipment or components that have a fixed useful life and are subject to periodic inspection, maintenances and replacement shall not be reported as mishaps, as long as normal wear and tear is the sole cause of damage. Minor cracks, breaks, wrinkles, and ruptures will be considered normal wear and tear within the meaning of this paragraph. Poor workmanship, incorrect use of materials, and improper installation of equipment is not considered normal wear and tear and shall be considered a mishap. These mishaps shall be reported and investigated appropriately. Damage, failure, or malfunction because of design defects shall be considered reportable mishaps.

## RADIATION DETECTION SAFETY



Ref: (a) Maritime Radiation Detection Program and Guidance for Utilizing Radiation Equipment During Vessel Boardings, Cargo Inspections, And Other Activities, COMDTINST 16600.2A

1. **GENERAL.** This document provides policy on the proper protocols and usage of Sector Delaware Bay radiation detection equipment, which includes the Personal Radiation Detector (PRD) (“Radiation Pager”), Radioisotope Identification Device (RIID / Identifinder-U), and the radiation detection back pack (RadPack). This equipment is used to detect the presence of radiation in the field and to safeguard the health and safety of Coast Guard Personnel. All guidance contained in reference (a) is to be followed.
2. **POLICY STATEMENT.** Use of the PRDs during routine boardings/inspections, shore side inspections, or other field operations are classified as Level I. If a radioactive source is detected that is not explained by either natural sources (e.g., granite, local background radiation, or other naturally occurring isotopes), licensed industrial sources (e.g., X-ray Fluorescence Analyzers, Radiation Detector sources, etc), authorized medical uses (e.g., radiation therapy), or change in background due to change of location, then a Level II team may be brought in to survey the area in more detail to determine the source of the radiation. Members should be aware that every alarm does not constitute an emergency, and must be observant of their surroundings.
3. **DISCUSSION.** PRDs are to be used by all personnel during vessel boardings/inspections, and by teams conducting shore side inspections and other field operations, pollution response, and during Weapons of Mass Destruction (WMD) incidents. Personnel required to operate independently shall each carry a PRD. Sector Delaware Bay’s goal is to ensure the protection of field personnel from the effects of radiation exposure during the course of their missions, and to detect and intercept illicit radioactive material.
4. **PROCEDURES.** In the event that radiation is detected, close attention should be paid to the levels of radiation indicated by the PRD. Remember the first rule: **“Not Every Alarm is an Emergency.”** The detectors read at a very low level, microRem per hour ( $\mu\text{Rem/hr}$ ). 1  $\mu\text{Rem}$  equals 1 millionth of a Rem. Observable physiological effects from radiation do not start until approximately 25 to 100 Rem. However, any radiation above background, no matter how low, *may* be an indication of something unusual.
  - a. Radiation, unlike many hazards, cannot be seen, felt, or detected in any way by the five senses. The instruments used by Sector Delaware Bay can detect radiation at extremely low levels. Due to sensitivity, care should be given in interpreting the instrument readouts.

- (1) The PRD reads 0 to 4,500  $\mu\text{Rem/hr}$  gamma and 0-20 counts per second neutron.
  - (2) The Identifinder-U reads  $\mu\text{Rem/hr}$  gamma and counts per minute neutron at levels much higher than the PRDs. The Identifinder-U not only detects radiation but will also act as a survey meter and can identify the radioactive isotope in question utilizing its on-board spectrum library.
  - (3) The RadPack is a broad-area radiation search tool that reads in  $\mu\text{Rem/hr}$  for gamma and counts per second for neutron.
- b. Action levels are the level of radiation exposure at which Coast Guard personnel are directed to take specific action. This will vary according to the level (I or II) of the boarding or response.
- (1) **Level I:** During routine operations, if a PRD activates, personnel shall follow the SMAC concept: **Stop**; **Move away**; **Alert**; **Close-off**
    - (a) **Stop:** When an alarm is activated – personnel shall stop to avoid closer contact with the possible source, assess the level of radiation exposure and note the location and strength of the alarm.
    - (b) **Move away:** Personnel should back away in the direction from which they approached to a point where a safe reading is attained. This safe reading is where the dose rate drops below 4,500  $\mu\text{Rem/hr}$  or a steady (continuous) neutron reading less than 20 counts per second. Once an alarm is triggered, update the background by calibrating before resuming search. It may be necessary to repeat this several times until the source is located.
    - (c) **Alert:** Personnel shall alert other team personnel in the immediate area, and then report the situation to the Boarding Officer or equivalent team leader, who shall ensure the Tactical Commander is immediately notified.
    - (d) **Close-off:** Personnel shall ensure no one enters the area where the alarm was activated. Establish positive control of the area and set a security perimeter on all sides of the point where the alarm was activated, but no closer than the maximum dose rate of 4,500  $\mu\text{Rem/hr}$  stated in “Move away” above. Level I RAD personnel may not enter areas where the dose rate is equal to or exceeds 4,500  $\mu\text{Rem/hr}$ .

(2) **Level II:** (Identifinder U/RadPack),

- (a) 1 hour (cumulative) at 4,500 – 15,000  $\mu$ Rem/hr gamma
  - (b) 30 minutes (cumulative) at 15,000 – 25,000  $\mu$ Rem/hr gamma or 150 counts per minute neutron / 20 to 40 counts per second neutron
  - (c) Under this exposure level, there is no need for any additional protective equipment. No personnel shall enter an area where measurements exceed 25,000  $\mu$ Rem/hr gamma, 40 counts per second or 300 counts per minute neutron.
  - (d) In a situation where these limits are exceeded, additional support shall be requested from the resources identified in reference (a) and personnel shall maintain a safe distance while securing the area.
  - (e) In all situations, personnel will make use of time, distance and shielding to keep exposure as low as reasonably achievable (ALARA).
- c. Health effects from radiation exposure will occur after a massive acute dose. The human body is equipped to tolerate a chronic dose better than an acute dose, as there is time to repair/replace the damaged cells. However, chronic long-term exposure may bring with it the risk of cancer, leukemia, cataracts, or irreversible genetic changes. The PRDs read up to 4,500  $\mu$ Rem (0.0045 Rem), well below the level where physical effects can be detected. The effects of a high dose of radiation are listed below (note readings are in Rem. 1 Rem = 1,000,000  $\mu$ Rem):
- Up to 25 Rem: No detectable clinical effect.
  - 25 to 100 Rem: Slight reduction in white blood cell count. Disabling sickness not common, however delayed effects are possible with serious effects being very improbable.
  - 100 to 200 Rem: Nausea and fatigue at >125 Rem noticed in 20-25% of people. Delayed effects may shorten life expectancy by 1%.
  - 200 to 300 Rem: Nausea and vomiting are highly probable on first day. Latent period of  $\geq 2$  weeks. After latent period, non-severe loss of appetite, general malaise, sore throat, and diarrhea. Recovery is likely in about 3 months.
  - 300 to 600 Rem: Nausea, vomiting, and diarrhea are imminent in the first few hours. Up to 1-week latent period. Loss of appetite, general malaise, fever, and inflammation. Approximately  $\frac{1}{2}$  those exposed to 500 Rem will die in 30 days.
  - 600 Rem +: Effects as above, with a very short latent period.

- d. **None of the current radiation detection equipment discussed in this instruction is intrinsically safe.** Radiation detection equipment shall be accompanied by a calibrated multi-gas meter capable of detecting oxygen and flammable/combustible gases when using this equipment on tank vessels, barges, or other vessels carrying flammable or combustible material in bulk. Radiation detection equipment should not be used in spaces with a high likelihood of the presence of flammable atmospheres (i.e., pump rooms, fuel tanks, cargo holds which previously carried flammable or combustible materials). A gas free engineer or marine chemist must certify that the aforementioned spaces are safe for entry if they need to be inspected with radiation detection equipment.
  - e. All field personnel will receive in house training (from a Level II resident training graduate) in basic radiation awareness as well as operation of the PRD prior to use. Additional Level II training will be made available to the Level II team and Law Enforcement boarding teams as classes are available.
5. **MAINTENANCE.** Follow manufacturer's manuals as specified by enclosure (4) to reference (a). All of Sector Delaware Bay's PRDs have been checked and have been upgraded with a modification (the insertion of part of a camping lantern mantel in a special holder) that should prevent the PRD from going into a battery-draining "hunt" mode at sea. Bring any unresolved radiation detection equipment issues to the attention of the unit Law Enforcement Officer/Petty Officer.



## RESPIRATORY PROTECTION PROGRAM



- Ref:
- (a) Safety and Environmental Health Manual, COMDTINST M5100.47
  - (b) Technical Guide: Practices for Respiratory Protection, COMDTINST M6260.2 (series)
  - (c) Medical Manual, COMDTINST M6000.1(series)
  - (d) Respiratory Protection Regulations (OSHA), 29 CFR 1910.134
  - (e) Weapons of Mass Destruction and Catastrophic Hazardous Materials Release, COMDTINST 3400.3
  - (f) The American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Value (TLV); Guide to Occupational Exposure Values, 2006
  - (g) Occupational Safety and Health Administration (OSHA), 29 CFR Part 1910: Occupational Safety and Health Standards, Subpart Z – Toxic and Hazardous Substances

1. **GENERAL.** The purpose of this Respiratory Protection Program is to ensure the protection of all Sector Delaware Bay employees from respiratory hazards through the proper use of respirators in accordance with references (a-g). Respirators will be used in areas where engineering controls are not feasible, in emergencies, or to escape a hazard. Personnel required to wear a respirator to perform their duties shall be included in a Respiratory Protection Program. Reference (b), its required forms and documentation, and this enclosure constitutes Sector Delaware Bay's written Respiratory Protection Program.

2. **RESPONSIBILITIES.**

- a. Sector Delaware Bay's and subunit's Respiratory Protection Coordinators (RPC), are designated in writing and are responsible for implementing and managing all the program elements in accordance with reference (b). The RPC must be formally trained by an MLC (kse) Safety and Environmental Health Professional, attending the Unit Safety Coordinator Course, or attending a respiratory protection course from a commercial vendor to effectively carry out the responsibilities established in this program.
- b. The RPC shall maintain a record of the following:
  - (1) Respirator users [reference (b), Enclosure (8)]
  - (2) Respirator qualification information [reference (b), Enclosure (7)]
  - (3) Fit testing [reference (b), Enclosure (3)]

- (4) Initial and annual refresher training for respirator users
- (5) Cartridge change-out schedule [reference (b), Enclosure (10)]
- (6) Immediately Dangerous to Life and Health locations, [reference (b), Enclosure (9)]
- (7) Annual Respiratory Protection Program evaluation [reference (b), Enclosure (11)]
- (8) Hazard Assessment reports conducted by Safety and Environmental Health Professionals

3. **RESPIRATOR SELECTION.** Procedures for selecting and using National Institutes for Occupational Safety and Health (NIOSH) certified respirators will be based on the following criteria:

- a. Respirators will be selected on the basis of the type of hazard in the workplace. The Safety Manager, RPC, Safety Coordinator, Hazardous Materials Officer/Pharmacist, or the MLC (kse) Safety and Environmental Health Professional may perform hazard assessments in the workplace to determine the type respirator required. The RPC may consult or solicit the assistance of MLC (kse) or the MLC detached Safety and Environmental Health Officer (SEHO) for technical or scientific advice.
- b. Personnel working in potentially hazardous environments or in high exposure risk occupations will be issued respirators after completing a medical evaluation and cleared to wear the facepiece in accordance with references (b) and (c). The same personnel must also successfully complete Respiratory Protection training and must be properly fitted for a respirator.
- c. The MLC (kse) Safety and Environmental Health Professional may make recommendations regarding respirators after an assist visit or health risk assessment.

4. **TRAINING.**

- a. The Sector Training Officer will coordinate with the RPC to ensure that all personnel required to wear a respirator or new personnel assigned to shops where a respirator is required receive initial Respiratory Protection training followed by annual refresher training. The RPC will document all manner of training and maintain a record of who is designated to wear a respirator.
- b. Training will cover important topics such as respirator cartridge break-through and cartridge end-of-service-life indicator (ESLI) that warn the respirator user of the approach of the end of adequate respiratory protection (i.e., the cartridge or canister sorbent is approaching saturation or is no longer effective).

5. **FIT-TESTING.**

- a. Fit testing will be performed in accordance with references (a) and (b). Personnel medically cleared to wear a respirator will undergo a qualitative fit test (to determine if the person passes or fails the fit test based on the individual's response to the test agent) or a quantitative fit test (to numerically measure the amount of leakage into the

respirator). Each individual will be fit-tested only with the size, model, and make of respirator they will be expected to use.

- b. Personnel who do not normally wear a respirator during their routine work but may have to don a respirator for escape purposes only during an actual or potential emergency (i.e., the respirator issued in the Chemical, Biological, Radiological, and Nuclear kit) must undergo training and fit-testing for their specific equipment per reference (e).

6. **MAINTENANCE.**

- a. Wearing poorly maintained or malfunctioning respirators affords no protection. Each person designated to wear a respirator must inspect their equipment for defects, clean and sanitize the respirator, maintain their equipment before and after each use, and ensure the equipment is properly stored. The Safety Manager, Safety Coordinator, RPC, and/or Supervisor may perform periodic inspection of respirators that have been issued to personnel.
- b. Emergency escape breathing devices (EEBD's) and emergency escape respirators are particularly vulnerable to poor maintenance, as they are used infrequently and in emergency situations. Therefore, all EEBD's and emergency escape respirators shall be inspected at least monthly, as well as before and after each use. These inspections include a visual check of all connections, physical condition of all elastomeric material, and proper storage. Personnel conducting these inspections shall document them with date, name, and findings.

7. **CARTRIDGE AND CANNISTER CHANGE-OUT.**

- a. The Safety Manager, Safety Coordinator, Supervisor, or RPC may coordinate with MLC (kse) or the detached Safety and Environmental Health Officer for assistance in determining a cartridge/canister change-out schedule for each operation or task performed at the unit which poses a potential gas or vapor exposure hazard. The following information will need to be provided:
  - (1) Product used and MSDS
  - (2) Frequency and duration of task
  - (3) Respirator manufacturer, model, and type, and cartridge model
  - (4) Level of work intensity/breathing rate (normal, 2x normal, 3x normal)
  - (5) Location of the task and any engineering controls/ventilation used
  - (6) Maximum expected temperature and relative humidity during the task
- b. Where a schedule has not yet been established, it should be completed as soon as practical and the shop supervisor shall ensure personnel do not use gas or vapor cartridges/canisters longer than 8-hrs and that they be discarded at the end of the shift, regardless of the duration of use.

8. **GENERAL POLICY STATEMENT.**

- a. Sector personnel who do not use a method of respiratory protection in the course of their regular work duties are reminded not to enter spaces or conduct work assignments that require respiratory protection without proper medical clearance, training, and fit testing.
- b. Sector personnel are prohibited from performing asbestos abatement/removal and shore firefighting. These tasks not only require the use of a respirator, but require specified training. Such tasks will be performed by qualified professionals/contractors.
- c. Air-purifying respirators must not be used in spaces where an atmosphere has been determined to be immediately dangerous to life and health (IDLH) or oxygen deficient.
- d. Many operations entail outdoor activities which include pollution response, shipyard inspections, facility examination and monitoring, etc. Because dust and vapor control is often beyond the control of CG personnel, it is the responsibility of trained CG personnel to rely on detection equipment to evaluate and determine a potential exposure. Personnel are not authorized to enter a space where respiratory protection is required or where there are known vapor concentrations exceeding references (f) and (g), or Coast Guard standard (whichever is lowest), or where there is reason to believe that the environment may be hazardous, references (a) and (c). If respiratory protection is needed during the course of normal work duties, personnel must back-out of the space and not enter until it is found safe by marine safety professionals (e.g., gas free engineer or marine chemist).
- e. Engineering and administrative controls are primary methods for controlling workplace hazards. When engineering controls are not feasible in an operation where exposure is suspected, imminent, or known to be a high risk for chemical exposure the worker shall use a respirator in accordance with this program. Such operations shall be evaluated by a Safety and Environmental Health Professional to determine adequacy of the respiratory protection.
- f. Personnel who work in shops or are involved in routine maintenance may voluntarily wear air purifying respirators if the person has a concern with nuisance (non-toxic) chemical vapors/dust per reference (b) and (d). However, those making the request for voluntary use shall consult with their Supervisor, Safety Coordinator, and RPC before donning the respirator. Personnel approved for voluntary use of an air purifying respiratory must comply with all elements of this program, unless it is a filtering face-piece respirator. Voluntary users approved to wear a filtering face-piece respirator are only required to read and adhere to reference (b), Enclosure 12.

9. **MEDICAL MONITORING.**

- a. Respirator users shall be evaluated by the Occupational Medical Surveillance and Evaluation Program (OMSEP) Coordinator and MLC (kse) Safety and Environmental Health Professional to determine whether they meet the criteria for enrollment into the OMSEP.
- b. Personnel enrolled in OMSEP shall be evaluated for respirator use as part of their OMSEP physical in accordance with reference (b), Chapter 8.

## OPERATIONAL RISK MANAGEMENT



Ref: (a) Safety and Environmental Health Manual, COMDTINST M5100.47  
(b) Operational Risk Management, COMDTINST 3500.3

### 1. **GENERAL.**

- a. Operational Risk Management (ORM) is defined as a continuous, systematic process of identifying and controlling risks in all activities according to a set of pre-conceived parameters. Applying appropriate management, procedures and control measures can lower risks. This process includes detecting hazards, assessing risks, and implementing and monitoring risk controls to support effective, risk-based decision-making.
- b. ORM applies to more than just Sector Delaware Bay operational missions or tasks. All Sector missions and daily activities, both on duty and off-duty, involve risk management decisions. Operational in the sense of "Operational Risk Management" includes any military or civilian Sector Delaware Bay member who contributes to the overall goal of increasing unit effectiveness.
- c. This enclosure serves as a guide to references (a) and (b), which shall be consulted for authoritative detail, including definitions of terms.
- d. Site Safety Officers for emergency responses and planned events shall follow this policy and shall also consider special risk management tools available to them from sources including [www.uscg.mil/homeport](http://www.uscg.mil/homeport) -->Library-->Incident Command System, COMDT (CG-1134), and the cognizant MLC detached Safety and Environmental Health Officer.

### 2. **POLICY STATEMENT.**

- a. All levels of Sector Delaware Bay contribute directly or indirectly to operational mission successes. Every member of the Sector is responsible for identifying potential risks and compensating accordingly; therefore, the ORM target audience includes all Sector personnel on or off-duty, regardless of job.

- b. Risk management programs encourage safe decision-making when applied correctly and consistently. Consistently applying risk management techniques can help modify member attitudes and change motivational factors known to put people at risk (e.g., driving with fatigue). Supervisors should encourage members to employ ORM prior to performing any mission or task to ensure the safety of all Sector Delaware Bay personnel.

### 3. **RISK MANAGEMENT PRINCIPLES.**

- a. The use of risk management principles can be as simple as addressing the weather before driving without any formal written ORM models, or can be as complex as having a safety brief before executing a complex SAR mission, maintenance project, or Port State boarding. No matter how simple or complex the mission or task, always apply these basic decision-making principles before any anticipated job, task, or mission: (1) accept no unnecessary risk; (2) Accept necessary risk when benefits outweigh costs; (3) make risk decisions at the appropriate level; (4) ORM is just as critical during mission execution as it is in the planning of activities.
- b. Every event requires risk to be maintained within acceptable boundaries (e.g., slowing to a safe speed in foggy conditions). Keeping risk in check is therefore very important and a systematic approach to minimize risk should include addressing these tasks:
  - (1) Define the mission tasks by reviewing current and planned operations describing the mission at hand. To assist with this step, construct a list or chart depicting major phases of the operation or task. Further break down the operation or task into “bite-size” pieces, while maintaining a big-picture awareness of the relationships among the pieces;
  - (2) Identify and define the potential hazards. The key to successfully analyzing risk is carefully defining the hazard. This step involves identifying those things that are “potential failures,” or things that can go wrong. To ensure effective hazard identification, the basic categories of equipment, environment, and personnel should be considered;
  - (3) Assess the risks of the hazards identified in relation to the unit and the mission. Individual risk levels must be identified for each specific hazard. Risk assessment is conducted by evaluating specific elements or factors, that when combined, define risk. This risk level must be understood by all as it applies to the task or mission. To assess risk, a Green, Amber, Red (GAR) Model or a Severity, Probability, Exposure (SPE) model may be generated (see 4. Procedure below for explanation and use). To avoid potential controversy, consider in advance both the perceived and expected value of a loss.

- (4) Identify hazard control options that may reduce risk. Starting with the highest risk hazards assessed in the above steps, identify as many risk controls options or safeguards as possible. Determine each option's impact on mission and unit goals and select the best alternative or combination of alternatives. Risk control options include: spread out, transfer, avoid, accept, and reduce (STAAR). Effective risk management strategies address the risk's components of severity, probability, and exposure, and include engineering controls; training, safe work practices, and other administrative controls; and personal protective equipment.
- (5) Evaluate risk vs. gain and determine if benefits of the operation outweigh the risks. If risks outweigh gains, re-examine control options for new or modified controls. If that fails, inform the next level in the chain of command and request assistance with implementing additional controls, modifying or canceling the mission, or accepting the identified risks. Supervisors and Department Heads share responsibility for the risks taken by the team or asset. Gain levels (Table 1) and risk vs. gain thresholds (Table 2) for common operations in the Sector are set forth below and take precedence over more general instructions. Departments shall propose additional pre-defined gain levels and risk vs. gain thresholds to the Sector Safety Board for command approval. A team discussion to understand the risks and how they will be managed is the most important component of the evaluation, not the ability to assign numbers or colors.



**Table 1. Gain levels pre-defined by mission.**

<b><u>MISSION</u></b>	<b><u>GAIN LEVEL</u></b>		
	<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>MHLS</b>	General Harbor Patrol	Vessel Escort, no specific threat	Vessel escort, specific threat
	MARSEC 1 patrol, routine tasking	MARSEC 2 patrol, specific tasking	MARSEC 3 response, specific intel and/or threat
<b>SAR</b>	Uncorrelated MAYDAY	Confirmed MAYDAY	Confirmed PIW
	Disabled Vsl	Vsl T.O.W.	Capsized Vsl
	Unreported Vessel	Vessel Aground	Critical Medico
<b>Training</b>	Area Familiarization	Critical Training for watchstander qual	There are no high gain training missions
<b>LMR</b>	LMR Patrol	LMR enforcement w/ specific intel	There are no high gain LMR missions.
	Stranded/entangled marine mammal	Stranded/entangled Northern Right Whale	
<b>ATON</b>	Non-essential Off-Station	Essential Off-Station	Critical Off-station
	Non-essential Extinguished	Essential Extinguished	Critical Extinguished
	Routine ATON maintenance		
<b>MEP</b>	Harbor Patrol	Response Assistance	Response assistance, lives in danger
<b>Domestic Ice Breaking</b>	General Harbor Patrol	Response Assistance	Response to fill critical shortage; lives in danger

**Table 2. Risk Vs. Gain Thresholds**

	<b>High Gain</b>	<b>Medium Gain</b>	<b>Low Gain</b>
<b>Low Risk</b>	Accept the Mission. Continue to monitor Risk Factors, if conditions or mission changes.	Accept the Mission. Continue to monitor Risk Factors, if conditions or mission changes.	Accept the Mission. Re-evaluate Risk vs. Gain, should Risk Factors change.
<b>Medium Risk</b>	Accept the Mission. Continue to monitor Risk Factors and employ Control Options when available.	Accept the Mission. Continue to monitor Risk Factors and employ Control Options when available.	Accept the Mission. Continue to monitor Risk Factors and actively pursue Control Options to reduce Risk.
<b>High Risk</b>	Accept the Mission only with Command endorsement. Communicate Risk vs. Gain to Chain of Command. Actively pursue Control Options to reduce Risk.	Accept the Mission only with Command endorsement. Communicate Risk vs. Gain to Chain of Command. Actively pursue Control Options to reduce Risk.	Do not Accept the Mission. Communicate to Chain of Command. Wait until Risk Factors change or Control Options warrant.

- (6) Execute decision and take action. This may mean increasing, replacing, or reassigning resources (i.e., people, equipment, and/or information), and ensuring the risk controls are known by all and enforced.
- (7) Monitor situation. Risk management is a continuous process and must be monitored to achieve success. Anticipate and respond to changes in situations and return to step #1, or reassess risk to ensure that all risks have been mitigated or addressed.

#### 4. **PROCEDURE.**

- a. The SPE Model assesses risks for specific hazards. In this model,  $\text{Risk} = \text{Severity} \times \text{Probability} \times \text{Exposure}$ . Each area is given an overall number one through five and multiplied together. This final product is then correlated with a set of values that assign risk; 1-19 (slight), 20-39 (possible); 40-59 (substantial); 60-79 (high); 80-100 (very high). Attention is needed for possible risk, and action is required for substantial and high risk. The ICS-215A CG form uses this model.
  - (1) Severity is the degree of consequence if the hazard were to occur (i.e., extent of injury, illness, equipment damage, mission degradation). Severity is not limited to human health consequences. It can also be used to categorize impact to the other categories (e.g., morale, mission, etc.).
  - (2) Probability is the likelihood that the consequences will occur.
  - (3) Exposure is a measure of how widespread and intense the risk is. Exposure components include duration, number of people, number of repetitions, and amount of equipment. An example may be exposing a single work crew or the entire unit, command post, or community.
- b. We can address more general risk concerns, involving planning operations or reassessing risks as we reach milestones within our plans, by using the GAR model. Often used in cutter or small boat operations, these elements can also be applied to other Sector Delaware Bay operations as well. These elements include: (1) supervision; (2) planning; (3) team selection; (4) team fitness; (5) environment; (6) event complexity. To determine GAR model risk color (e.g., red equals high risk, amber equals caution, and green equals low risk), assign a risk code of 0 (no risk) through 10 (maximum risk). Add the individual risk numbers and compare the color chart. Low risk (Green) is between 0 and 23, Caution (Amber) is between 23 and 44, and High Risk (Red) is 45 to 60. A wallet card suitable for laminating and stowing in locations where operational decisions are made (e.g., communications center, boat cockpit, boarding/inspection kit, etc.) is included on the following page.

## GAR RISK CALCULATION SLIP

Element where 0 is no risk and 10 is high risk	Score
Supervision	
Planning	
Crew Selection	
Crew Fitness	
Environment	
Event/Evolution Complexity	
<b>TOTAL SCORE (sum)</b>	

GAR evaluation scale for color-coding degree of risk

0-23 total score	24-44	45-60
<b>Green</b> Low risk; possibly acceptable	<b>Amber</b> Caution: attention needed	<b>Red</b> High Risk: correction/control required

-----FOLD HERE -----

<b>Supervision</b>	How qualified the supervisor is and whether effective supervision is taking place.
<b>Planning</b>	How much information you have, how clear it is, and how much time you have to plan the evolution or evaluate the situation
<b>Team Selection</b>	Qualifications and experience level of the individuals used for the specific event/evolution.
<b>Team Fitness</b>	Physical and mental state of the crew. This is a function of the amount and quality of rest a crew member has had. Quality of rest should consider how the ship rides, its habitability, potential sleep length, and any interruptions.
<b>Environment</b>	Factors affecting personnel performance as well as the performance of the asset or attached resources. Includes, but is not limited to, time of day, temperature, humidity, precipitation, wind and sea conditions, proximity to aerial/navigation hazards and other exposures (e.g. oxygen deficiency, toxic chemicals, and/or injury from falls and sharp objects).
<b>Event Complexity</b>	Both the required time and the situation. Generally, the longer one is exposed to a hazard, the greater the risks. The situation includes considering how long the environmental conditions will remain stable and the complexity of the work.

## GAR RISK CALCULATION SLIP

Element where 0 is no risk and 10 is high risk	Score
Supervision	
Planning	
Crew Selection	
Crew Fitness	
Environment	
Event/Evolution Complexity	
<b>TOTAL SCORE (sum)</b>	

GAR evaluation scale for color-coding degree of risk

0-23 total score	24-44	45-60
<b>Green</b> Low risk; possibly acceptable	<b>Amber</b> Caution: attention needed	<b>Red</b> High Risk: correction/control required

-----FOLD HERE -----

<b>Supervision</b>	How qualified the supervisor is and whether effective supervision is taking place.
<b>Planning</b>	How much information you have, how clear it is, and how much time you have to plan the evolution or evaluate the situation
<b>Team Selection</b>	Qualifications and experience level of the individuals used for the specific event/evolution.
<b>Team Fitness</b>	Physical and mental state of the crew. This is a function of the amount and quality of rest a crew member has had. Quality of rest should consider how the ship rides, its habitability, potential sleep length, and any interruptions.
<b>Environment</b>	Factors affecting personnel performance as well as the performance of the asset or attached resources. Includes, but is not limited to, time of day, temperature, humidity, precipitation, wind and sea conditions, proximity to aerial/navigation hazards and other exposures (e.g. oxygen deficiency, toxic chemicals, and/or injury from falls and sharp objects).
<b>Event Complexity</b>	Both the required time and the situation. Generally, the longer one is exposed to a hazard, the greater the risks. The situation includes considering how long the environmental conditions will remain stable and the complexity of the work.

## GAR RISK CALCULATION SLIP

Element where 0 is no risk and 10 is high risk	Score
Supervision	
Planning	
Crew Selection	
Crew Fitness	
Environment	
Event/Evolution Complexity	
<b>TOTAL SCORE (sum)</b>	

GAR evaluation scale for color-coding degree of risk

0-23 total score	24-44	45-60
<b>Green</b> Low risk; possibly acceptable	<b>Amber</b> Caution: attention needed	<b>Red</b> High Risk: correction/control required

-----FOLD HERE -----

<b>Supervision</b>	How qualified the supervisor is and whether effective supervision is taking place.
<b>Planning</b>	How much information you have, how clear it is, and how much time you have to plan the evolution or evaluate the situation
<b>Team Selection</b>	Qualifications and experience level of the individuals used for the specific event/evolution.
<b>Team Fitness</b>	Physical and mental state of the crew. This is a function of the amount and quality of rest a crew member has had. Quality of rest should consider how the ship rides, its habitability, potential sleep length, and any interruptions.
<b>Environment</b>	Factors affecting personnel performance as well as the performance of the asset or attached resources. Includes, but is not limited to, time of day, temperature, humidity, precipitation, wind and sea conditions, proximity to aerial/navigation hazards and other exposures (e.g. oxygen deficiency, toxic chemicals, and/or injury from falls and sharp objects).
<b>Event Complexity</b>	Both the required time and the situation. Generally, the longer one is exposed to a hazard, the greater the risks. The situation includes considering how long the environmental conditions will remain stable and the complexity of the work.

## GAR RISK CALCULATION SLIP

Element where 0 is no risk and 10 is high risk	Score
Supervision	
Planning	
Crew Selection	
Crew Fitness	
Environment	
Event/Evolution Complexity	
<b>TOTAL SCORE (sum)</b>	

GAR evaluation scale for color-coding degree of risk

0-23 total score	24-44	45-60
<b>Green</b> Low risk; possibly acceptable	<b>Amber</b> Caution: attention needed	<b>Red</b> High Risk: correction/control required

-----FOLD HERE -----

<b>Supervision</b>	How qualified the supervisor is and whether effective supervision is taking place.
<b>Planning</b>	How much information you have, how clear it is, and how much time you have to plan the evolution or evaluate the situation
<b>Team Selection</b>	Qualifications and experience level of the individuals used for the specific event/evolution.
<b>Team Fitness</b>	Physical and mental state of the crew. This is a function of the amount and quality of rest a crew member has had. Quality of rest should consider how the ship rides, its habitability, potential sleep length, and any interruptions.
<b>Environment</b>	Factors affecting personnel performance as well as the performance of the asset or attached resources. Includes, but is not limited to, time of day, temperature, humidity, precipitation, wind and sea conditions, proximity to aerial/navigation hazards and other exposures (e.g. oxygen deficiency, toxic chemicals, and/or injury from falls and sharp objects).
<b>Event Complexity</b>	Both the required time and the situation. Generally, the longer one is exposed to a hazard, the greater the risks. The situation includes considering how long the environmental conditions will remain stable and the complexity of the work.

# SAFE WORK PRACTICES

Sector Delaware Bay  
SWP Guidebook



## TABLE OF CONTENTS SAFE WORK PRACTICES

<b>INTRODUCTION .....</b>	<b>1</b>
<b>GENERAL SAFETY PRECAUTIONS.....</b>	<b>2</b>
<b>CREW FATIGUE STANDARDS .....</b>	<b>4</b>
<b>PERSONAL PROTECTIVE EQUIPMENT .....</b>	<b>5</b>
<b>MOTOR VEHICLE SAFETY .....</b>	<b>8</b>
<b>EXCESSIVE NOISE .....</b>	<b>11</b>
<b>HAZARDOUS LOCATIONS.....</b>	<b>12</b>
<b>HEAT STRESS.....</b>	<b>13</b>
<b>COLD STRESS.....</b>	<b>16</b>
<b>PREGNANT SERVICE WOMEN.....</b>	<b>18</b>
<b>BOAT OPERATIONS .....</b>	<b>20</b>
<b>VESSEL BOARDINGS.....</b>	<b>21</b>
<b>FOREIGN VESSEL BOARDINGS .....</b>	<b>22</b>
<b>CARGO TRANSFER MONITORS.....</b>	<b>24</b>
<b>ABOVE DECK ACTIVITIES DURING CARGO TANSFER.....</b>	<b>26</b>
<b>FACILITY INSPECTIONS (WATERFRONT).....</b>	<b>27</b>
<b>CONFINED AND ENCLOSED SPACES .....</b>	<b>29</b>
<b>CASUALTY INVESTIGATIONS .....</b>	<b>58</b>
<b>SPILL RESPONSE/INVESTIGATIONS.....</b>	<b>59</b>
<b>VESSEL INSPECTIONS.....</b>	<b>62</b>
<b>TESTS OF FIXED COMPRESSED GAS FIRE EXTINGUISHING SYSTEMS .....</b>	<b>62</b>
<b>BOILER INSPECTIONS .....</b>	<b>64</b>
<b>HOLDING TANK INSPECTIONS .....</b>	<b>65</b>
<b>ANCHOR BRAKE AND WINDLASS INSPECTIONS .....</b>	<b>66</b>
<b>PRESSURE TESTS OF PIPING AND TANKS .....</b>	<b>67</b>
<b>SHIPYARD HAZARDS.....</b>	<b>68</b>
<b>ACTIVITIES NEAR SHIP CONSTRUCTION AREAS (WELDING AND CUTTING).....</b>	<b>68</b>
<b>ACTIVITIES NEAR SHIP CONSTRUCTION AREAS (FIBERGLASS DUST/FUMES).....</b>	<b>69</b>
<b>ACTIVITIES NEAR SHIP CONSTRUCTION AREAS (ABRASIVE BLASTING AND PAINTING).....</b>	<b>70</b>
<b>DRYDOCK EXAMINATIONS.....</b>	<b>71</b>
<b>OFFICE SAFETY .....</b>	<b>72</b>

## **SECTOR DELAWARE BAY SAFE WORK PRACTICES**

### **INTRODUCTION**

This guide is an enclosure to Sector Delaware Bay Safety and Occupational Health Program. It was developed for your personal safety and well being when conducting marine safety, search and rescue, law enforcement, and Aid to Navigation activities.

The guide contains Safe Work Practices (SWPs) for the various activities conducted by Sector members. Each SWP lists the risks present at the activity, the SWPs to be followed, and any additional information with which each person involved in the activity should be familiar.

The guide is designed to be a quick reference guide and a memory jogger. **It does not contain all available information on hazards associated with each activity.** To do so would make the guide unwieldy and not "user-friendly". Please refer to Marine Safety Manual, Vol. I, Chapter 10, for further information.

### **Pollution Response Hotline Numbers**

NRC (800) 424-8802

CHEMTREC (800) 424-9300

ATSDR (Acute Exposure to HAZMAT) (404) 498-0120

### **Primary Response References**

- CHRIS Manual I
- CHRIS Manual II
- DOT Emergency Response Guidebook for Initial Response to Hazardous Materials Incidents (ERG)
- HAWLEY'S Condensed Chemical Dictionary
- ACGIH Threshold Limit Values and Biological Exposure Indices
- NIOSH Pocket Guide to Chemical Hazards
- SAX - Dangerous Properties of Hazardous Materials
- Hazardous Chemical Desk Reference
- NFPA Hazardous Materials Handbook
- MERCK Index

## **GENERAL SAFETY PRECAUTIONS**

### **Material Safety Data Sheet (MSDS)**

- Always read the MSDS for the product involved.
- Know how to protect yourself.
- Know what to do in case of a spill/release.
- Know what to do if exposed.

### **Wind Direction**

- Approach all hazardous locations with the wind to your back (upwind) or upwind and at an angle from the hazardous location.
- If exposed to vapor turn to keep the wind in your face as much as possible until you pass through the vapors taking the shortest route.

### **Slip, Trip, and Fall Hazards**

- Survey area for hazards before proceeding with the mission. Remember that many waterfront areas contain old, weathered wooden docks and pilings that may not be sturdy.

### **Cargo Operations**

- Know the product being transferred.
- Loading stage is when most accidents occur.
- Heated cargo creates excessive heat on deck and tank appendages that could cause burns.
- Increased vapors result from heating cargoes.

### **Emergency Escape Breathing Device (EEBD)**

- Carry EEBD when specified by the Safe Work Practices. Ensure that it is in a workable condition. Inspect it before leaving office.

### **Safe Work Practice (SWP)**

- Check the SWP for the particular mission you will be conducting.

### **Asbestos**

- No Sector Delaware Bay member is trained or equipped to work in environments identified as presenting risk of exposure to loose/free asbestos fibers. Stay off ships or out of facilities where asbestos is being removed or has been deemed a potential hazard. Asbestos should be considered a hazard following machinery space fires until determined otherwise by qualified personnel (personnel meeting the state and or federal requirements for testing for asbestos). Work with your Unit Safety Coordinator or contact the MLC detached Safety and Environmental Health Officer (SEHO) for assistance if you suspect asbestos is a hazard.

### **Personal Security**

- Many areas around the waterfront are industrial zones. At night, they are poorly lit and infrequently traveled. These areas may pose a higher-than-average threat to your personal security.

No one should feel that response to a pollution case, a casualty investigation, or a trip to serve a subpoena is more important than his or her own personal security. Use the buddy system when responding to situations where there may not be anyone else on scene. Always take your cellular phone but keep in mind that there may be areas where you will not want to use the cell phone as it is not intrinsically safe.

If you feel threatened in approaching a particular situation, then leave. Contact the duty officer or your supervisor as soon as possible and explain the situation. If necessary, police escort can be arranged to ensure your safety into threatening areas. The Sector Duty Officer will contact the cognizant police department, or terminal, shipyard, or facility security force to arrange for an escort.

### **Buddy System**

- Sector Delaware Bay personnel will always use the buddy system. If you are not able to have a unit member as your buddy, ensure that you make arrangements with another trusted person, such as a member of another federal, state or local agency or even a trusted shipyard supervisor. Buddies should watch out for each other and report any emergencies.

### **Fatigue**

- Fatigue contributes too many types of mishaps ranging from automobile mishaps to poor judgment during any evolution. See the SWP for Crew Fatigue Limits and do not exceed those limits without permission from your Branch Supervisor.

### **Reporting Injuries**

- Report all suspected overexposures and mishaps to your supervisor, then to the Unit Safety Coordinator. Follow the Chemical Exposure Safe Work Practice and call the Agency for Toxic Substances and Disease Registry (ATSDR) at 404-498-0120.



**CREW FATIGUE STANDARDS**

<b>Activity</b>	<b>Number of hours in one day that a crew member can work (Ceiling – Not to be exceeded)</b>	<b>Maximum Daily Hours averaged over 60-hr/7-day week (Time Weighted Average using a 7-day week)</b>
Vessel Screening	12 hours	6 hours
At-Sea HIV (armed)	10 hours	6 hours
Shore-side HIV (armed)	10 hours	6 hours
LEBT (armed)	10 hours	6 hours
Harbor Patrol (unarmed)	12 hours	12 hours
Routine Facility Inspection	12 hours	8 hours
Routine Vessel Inspection	12 hours	8 hours
Response & Investigations	12 hours	8 hours
Commercial Fishing Vessel	12 hours	8 hours
Administrative Personnel	12 hours	12 hours

The basic standard for work hours that you should not exceed is a 12-hour maximum day and a 60-hour maximum week. If you complete a 6-hour HIV boarding you could still do 2 to 4 hours of administrative work in the office and not exceed the guidelines above. Or, you could conduct a 4-hour HIV boarding event, do 2 hours of work in the office, then 2 hours of Harbor Patrol and be well within the guidelines above. Any combination of events that fall within the minimum guidelines above may be done. The goal is to manage crew endurance so that we can safely sustain operations long-term. Crew endurance encompasses physical and mental well-being. These limits are designed to protect your safety during arduous tasks such as embarking/disembarking deep draft vessels offshore and also to ensure that each member has time for activities outside of work so that we keep other potential stressors under control.

## **PERSONAL PROTECTIVE EQUIPMENT (PPE) THAT SHALL BE WORN**

### **Basic Ensemble Requirements:**

- Hard hat for:
  - Shipyard
  - Container Inspections
  - Waterfront facilities
  - Tank barge boardings and inspections
  - Deep draft vessel examinations and inspections
  - Any area where falling objects or low fixtures present a head injury hazard
- Safety glasses that meet the requirements of ANSI Z87.1 for:
  - Shipyards
  - Container Inspections
  - Vessel Inspections (particularly engine rooms and other machinery spaces)
  - Pollution response activities unless chemical protective goggles are worn
  - Any location where flying objects pose a hazard
- Hearing protection for:
  - Designated hazardous-noise locations
  - Any location where personnel must raise their voices to communicate.
  - Earplugs with earmuffs should be worn in engine rooms and other similarly high hazardous-noise locations
- Safety shoes that meet the requirements of ANSI Z41 for:
  - Shipyards
  - Container Inspections
  - Vessel boardings
  - Waterfront facilities
  - Offshore facilities
  - Most pollution response activities
  - Any location with falling object or debris hazards
- PFDs for:
  - Underway vessel boardings
  - Small boats
  - Barge boardings
  - Activities that require walking and/or working within 6 feet of unguarded, deck edge
  - Rafting of tanks and voids

### **Basic Skin Protection:**

- Leather gloves for non-pollution response abrasion hazards

- Nitrile gloves for pollution response activities including sampling
- Sunscreen for sun exposures

**Atmospheric Monitors and Alarms:**

- Oxygen alarm [a.k.a., Gas Alert Clip (GAC) or Gas Alert Micro Clip (GAMIC)] for:
  - At least the first Coast Guard person entering the space in any confined space entry situation except the following, when all personnel shall wear oxygen alarms:
- Confined spaces next to inerted spaces or spaces containing compressed or liquefied cargoes due to the risk of suddenly changing conditions due to leaks
- Spaces where there are residues of oxygen consuming products such as organic materials, metals/dusts/shavings/briquettes or edible oils
- Confined spaces lacking forced air ventilation or a marine chemist certificate, as provided for by unit procedures for confined space entry on Small Passenger Vessels and Fishing Vessels
- Combustible gas meters for:
  - Initial pollution response activities and any pollution sampling operations
  - Areas near liquefied or compressed flammable or combustible cargoes
  - Tank entries involving welding or painting operations
  - Confined spaces presenting explosion hazards where regular protection may not be adequate (e.g., flammable cargo tanks, tanks adjacent to spaces containing flammable or combustible grade D product in bulk or residue, and tanks tested by competent persons).

[Note: Unit personnel may require the responsible party, vessel owner, or shipyard to conduct tests with a combustible gas meter in lieu of using a unit combustible gas meter. For confined space entry, a Certified Marine Chemist shall certify the space “Atmosphere Safe for Workers”, and if entry is more than 24 hours after the certificate was issued or if conditions may have changed since the certificate was issued, a competent person shall test the space to maintain the Marine Chemist’s Certificate. The shipyard’s safety program, including the competent person program must have passed an audit by the unit in order for unit personnel to accept air-monitoring results obtained by a shipyard competent person in accordance with Marine Safety Manual Volume 1, Chapter 10. For pollution response, unit personnel may require air monitoring be conducted by the responsible party or their representative [i.e., Oil Spill Response Organization (OSRO)].

**Respiratory Protection Equipment:**

- Sector Delaware Bay personnel shall not rely upon air purifying respirators to protect personnel from contaminants at levels above occupational exposure limits
- Air purifying respirators may be voluntarily used for added, or redundant protection, or to control unpleasant cargo odors, as long as the concentrations of cargo vapors are below acceptable limits

**Emergency Equipment:**

- Emergency Escape Breathing Device (EEBD):
  - Near compressed or liquefied cargoes
  - In pump rooms on vessels carrying cargo (vice on a vessel in a shipyard that is completely gas free)
  - During initial pollution response activities or other emergency response activities
  - Near cargo transfers of Subchapters D and O cargoes
  - During Subchapter O cargo tank entries to the extent that they do not create a serious safety hazard
  - During testing of CO<sub>2</sub> fire extinguishing systems
  - When entering other spaces that have the potential for suddenly changing atmospheres. Examples include, but are not limited to:
    - Confined spaces next to inerted spaces or spaces containing compressed or liquefied cargoes due to the risk of suddenly changing conditions due to leaks
    - Spaces where there are residues of oxygen consuming products such as organic materials, metals/dusts/shavings/briquettes or edible oils
    - Confined spaces lacking forced air ventilation or a Marine Chemist Certificate, as provided for by unit procedures (see SWPs for confined space safety on Small Passenger Vessels and Fishing Vessels)
  - Judgment must be exercised in determining circumstances when the space's atmosphere may be dynamic. **When in doubt, the EEBD should be carried.**

**Portable Communications:**

- Portable communications should always be carried to ensure quick communications to request emergency medical care if needed. Those are particularly important during:
  - Underway boardings
  - Small boat operations
  - Pollution response activities

**[Note: Portable instruments for use in potentially explosive atmospheres must be intrinsically safe and/or explosion proof (Class I, Division I rating). Cellular phones and radios that are not intrinsically safe should be turned off and left in a safe location such as the unit vehicle or vessel master's cabin until needed.]**

**Whistles or Noise Making Devices:**

- Small boat operations,
- Pollution response
- Confined space entry
- Other activities where there is a risk of falling into the water or becoming separated from team member(s).

## **MOTOR VEHICLE SAFETY**

One of the most dangerous operations we perform is driving to and from our job sites, including the office. Driving unfamiliar vehicles such as government cars can make the driving operation even more dangerous. There are a number of things every driver should do to reduce the risk of a mishap.

### **Prior to driving, familiarize yourself with the automobile.**

- Walk around the vehicle and check the outside condition for signs of damage, that tires are properly inflated, and the gas cap is in place.
- Check the trunk for a spare tire in good condition; tire changing equipment, and a road emergency kit.
- Once in the vehicle, familiarize yourself with location of control knobs for the lights, windshield wipers, panel lights, heat and air conditioning, and the radio/cassette. Check that the horn works.
- Put on your seat belt and ensure your passengers are "buckled up". Use the correct size child safety seats, and ensure they are installed properly. Adjust the rear view mirror, side view mirrors, and the seat.
- After turning on the ignition, check gauges/dashboard lights for oil, battery, and engine temperature. Check fuel level gauge.
- Bring your sunglasses for daytime driving.
- Lock all doors.
- Pull off the road a safe distance prior to using a cell phone/radio.
- If special purpose vehicles , e.g., trailers, large pickup trucks are to be used, ensure personnel meet training and licensing requirements found in current editions of COMDTINST M5100.47 (Safety and Environmental Health Manual) and COMDTINST M11240.9 (Motor Vehicle Manual). The SEH manual specifies some training and restrictions on driving time; the MV manual requires special licensing, not required in the recent past, for many vehicles.

### **While Driving**

- Use headlights under all conditions of reduced visibility; use the parking lights for parking only.
- Don't drive under the influence of alcohol or drugs.
- Beware of drinking too much coffee (caffeine), which may cause hallucinations.
- Take breaks about every two hours or 100 miles. If you need a nap on long trips, do it at a well-lighted rest stop.
- Look ahead for problems and maintain a safe distance behind the vehicle in front of you (**USE THE 3 SECOND RULE!**).
- Slow and steady is the best pace for driving on snow, ice, or other slippery road surfaces. Don't hit your brakes hard or accelerate quickly.
- Avoid staring into headlights of oncoming traffic.

- Don't wear headphones, earphones, or other listening devices.
- Use proper driving techniques; two hands on the wheel at the eight o'clock and the four o'clock positions.
- Don't let conversations, sightseeing, or adjusting the radio distract you from concentrating on your driving.
- Obey posted speed limits and pay heed to road signs.
- Yield to pedestrians. Be particularly vigilant for people attempting to cross at crosswalk areas, and for children playing in residential areas. Move cautiously when driving down streets lined with parked cars - pedestrians may step out at any time.
- Be alert for unusual circumstances. If you come upon a car or group of cars stopped in the road for no apparent reason, proceed with caution. There may be pedestrians, animals, or obstructions you cannot see which are forcing traffic to slow down.
- Don't pull away from a stoplight that has just turned green without first looking both ways for oncoming traffic. Many people try to "make the yellow light" but don't get to the intersection before the light turns red for them and green for you.

**Additional Safety Tips for Motorcycle Riders**

- All Coast Guard military personnel who operate a motorcycle shall successfully complete the appropriate Motorcycle Safety Foundation course.
- Motorcycle operators and passengers shall wear DOT-approved helmets, eye protection, sturdy leather footwear, leather gloves, long-legged trousers, long-sleeved shirt or jacket, and high-visibility outer garments.
- Be extra vigilant for motorists who may resent motorcyclists or just not notice you.

## **DRIVING ON FACILITIES AND SHIPYARDS**

Waterfront facilities, terminals, and shipyards are inherently dangerous places to drive a motor vehicle. These places are usually populated with heavy equipment used to move containers, carry steel plates, or lift heavy objects. The operators of these pieces of equipment often focus on the task at hand and may not be looking out for other vehicles. You must be extra vigilant and drive defensively in these situations.

- Follow all traffic flow signs and markings laid out by the facility operator. Avoid taking short cuts.
- Beware of container yard traffic and obstructions, road obstructions, and multiple cargo operations.
- Use defensive driving techniques. To facility equipment you are invisible; don't assume the other operator will give you the right-of-way, even though you may be entitled to it. You will most likely have the smaller vehicle. In these cases, assume the "big ship" rule-of-the-road: "Might makes Right", and stay out of their way.
- Turn on headlights and 4-way flashers when driving on facilities.
- Avoid unlit areas at night.
- Remain in authorized areas at all times.
- Use assistance to direct you when you are backing up the vehicle.
- Be cautious of where you park. Parking in a high traffic area may increase the likelihood of damage to the vehicle. Don't park near trucks or cranes. Check with facility operators on the proper places to park.
- Speed Kills. Maintain a slow, safe speed, even if truck drivers don't.
- Be extra alert for random pedestrian traffic.
- Be alert for overhead lifting operations including cargo operations.

### **Additional Information**

- MSM VOL I, CH 2 & 4
- MSM VOL II, CH 30
- MSM VOL VI, CH 1
- Marine Safety Harbor Patrols, COMDTINST 16600.1
- COMDTINST M11240.9 (Series), Motor Vehicle Manual
- COMDTINST M5100.46, Driving Under The Influence of Intoxicants
- COMDTINST M5100.47, Safety and Environmental Health Manual, Chapter 10 (Motor Vehicle Safety)

## **EXCESSIVE NOISE**

The recommended acceptable upper limit of noise is 84 decibels. Anyone working in environments with noise levels above this should wear hearing protection.

Here is a good rule-of-thumb for determining if protection is necessary: If you have to raise your voice in order to have a normal conversation with someone 2-3 feet away (arm's length), you should wear hearing protection.

### **Risk to You**

- Noise can damage hearing, temporarily and permanently
- Noise can create stress that can affect your physical and mental well-being
- Noise can cause accidents when workers can't hear instructions or warning signals

To reduce or eliminate these risks, hearing protection should be worn. Ear plugs, sponge or plastic, are generally considered to provide better protection than earmuffs. But wearing muff-type protectors is better than wearing no protection at all. Wearing both types of protectors is the best thing you can do.

Common locations where high noises may be encountered include engine rooms, pump rooms, areas of arc welding and metal grinding. The engine and pump rooms will often require double hearing protection.

Earplugs are also the most convenient. Many people carry them in a small plastic case, which they hang from their hard hat. See the Safety Coordinators for a set of earplugs and a case.



## **HAZARDOUS LOCATIONS**

**GENERAL:** Hazardous locations exist on all vessels and facilities that we inspect. To do your job safely, you must be familiar with them and exercise caution to ensure your own safety. The SWPs provide specific steps to avoid hazardous locations, but all personnel should constantly maintain awareness of their physical surroundings and strive to stay upwind or upwind and at an angle to vapor sources. The following hazardous locations are found on most tank vessels monitored:

### **Ullage Opening**

It is used to measure amount of cargo in a tank. There may be a small pipe in the case of restricted gauging. Vapors will escape when in use.

### **PV Valve**

It is used to relieve pressure buildup in cargo tanks. It will relieve (open) if there is excess pressure or excessive vacuum.

**NOTE: On barges that carry only Grade D & E cargoes you may find GOOSENECK VENTS that have no PV valve and constantly permit vapors to escape.**

### **Hatch Cover**

It may be opened when transferring some cargoes. Seals using dogs to force knife edge into a gasket material.

### **Reach Rods**

Used to open or close valves. The stem (or valve stems) passes through packing glands that will leak vapor if not kept tightened down or if packing deteriorates.

### **Cargo Pump**

Driven by cargo pump engine, most are deep well pumps and have a rotating shaft that will leak some product out around its packing glands. All pumps leak product to some degree and give off vapors. Most pumps emit noise above 84 dBA so hearing protection should be worn.

### **Cargo Pipeline**

Vapor hazards and contact with the liquid can exist around any connection in the system.

### **Drip Pans**

Keeps product that has leaked from (fixed containment) entering the water.

## HEAT STRESS

Heat Stress is the potentially dangerous condition that occurs when the body is unable to regulate its temperature.

There are three main classes of heat stress disorders:

1. **Heat Cramps** – Heat cramps are painful and severe cramps of muscles, primarily in the extremities and abdominal wall. May experience profuse sweating. Treat by moving to a cool place and drinking plenty of water. Do not remain sedentary in direct heat, especially if feeling faint.
2. **Heat Exhaustion** – This is peripheral vascular collapse due to excessive water and salt depletion. It is caused by failure to replenish fluids lost in perspiration. Symptoms include sweaty and pale or flushed, cool, clammy skin; fatigue; nausea; headache and possible dizziness, giddiness and/or vomiting. Heat exhaustion should be treated with rest in a cool place, loosening clothes, applying cool compresses, drinking water slowly and elevating feet 8 to 12 inches. Seek medical help at Sector Delaware Bay or emergency room. Call Emergency Medical Technician (EMT) if unable to get transportation.
3. **Heat Stroke** – **HEAT STROKE IS A MEDICAL EMERGENCY THAT REQUIRES HELP WITHOUT DELAY!** It is the result of the collapse of the thermal regulatory mechanism. Body temperatures rise to critical levels of 104° F to 108° F. Symptoms can include stoppage of sweating; hot, dry skin; red, mottled or bluish skin; body temp > 104° F; confusion; loss of consciousness; and convulsions. Treat by calling a doctor or 911, moving the victim to a cool area while waiting for transportation to hospital, using cool water to soak clothes and body, and fanning the person. Do not give fluids if the victim is unconscious. **TRANSPORT TO A HOSPITAL IMMEDIATELY.**

### **Risks to You From Too Much Time in the Heat**

- Headache
- Nausea
- Dizziness
- Feelings of tiredness and irritability
- Reduce your ability to concentrate
- Increase the risk of mishaps
- Death, in extreme cases

### **Environmental Factors Associated with Heat or Which Can Aggravate Heat Stress**

- Air temperature. The temperature of an object dictates the direction of heat flow from (or to) the body.
- Wind velocity. The higher the velocity of these currents, the faster the heat loss from the body.

- Humidity. Ambient air, at any given temperature, can only absorb so much moisture. When the moisture content (humidity) of the air is high, sweat evaporates slowly and heat loss is diminished.
- Radiant heat. Heat produced by the reflective energy of the sun or equipment in close proximity to a human body is absorbed into the surrounding air or directly into the body.

**Physiological Hazards Associated with Heat or Which Can Aggravate Heat Stress**

- Illness. Personnel suffering from or recovering from an acute or chronic disease.
- Previous history. Personnel who have a history of heat illness are more susceptible to heat illness in the future.
- Skin trauma. Personnel suffering from sunburn, heat rash, or other skin malady.
- Dehydration. Fluid output is greater than fluid intake. Causes include vomiting, diarrhea, and insufficient water intake including hangovers.
- Fatigue. Physical and mental weariness can cause a lack of concern and result in a failure to take proper precautions against heat injuries.
- Obesity. Body fat will interfere with the heat regulatory mechanism.
- Poor physical conditioning. Poor physical conditioning increases susceptibility to heat stress.
- Alcohol and drug use. Alcohol, medications, immunizations, decongestants, and allergy remedies interfere with heat regulatory mechanism.
- Sick cell trait. Sickling of blood cells impairs circulation and increases risk of injury. Persons with sick cell trait should be advised of their risks and preventive methods.

**Other Hazards Associated with Heat**

- Hot Surfaces that can cause serious burns (i.e., ship's machinery and boilers)
- Impaired vision from foggy glasses

**Safe Work Practices, Heat-Related Illness**

- Water Intake is the most important factor in avoidance of heat injury. Drink about 16 ounces before starting work & 5-7 ounces every 15-20 minutes during hot work even if you are not thirsty. Take water breaks in a cool area.
- Acclimatize to warmer temperatures over a minimum period of one week, three weeks is optimal. Steadily progress heat exposure and exertion.
- Acclimatization is lost when you have been away from a hot environment for a week or more.
- Schedule Work according to the situation. The best time to work in order to prevent heat stress is dependent upon humidity, radiant heat, wind velocity, character of the work, degree of acclimatization, and other factors. Avoid direct sun.
- Eat a balanced diet. A normal diet contains an adequate amount of sodium. Salt supplements are not necessary and are generally counterproductive. Eat well-balanced meals and avoid heavy or hot food, alcohol, and caffeine.

- Clothing. Lightweight, loose fitting clothing is best, but clothing selection must also consider other hazards. Try to wear clothing that is loosing fitting at the extremities.
- Work at a reasonable pace.
- When working outdoors, use proper sun-block or sunscreen and wear hats, sunglasses, sweatbands, and proper footgear.
- Wear PPE near hot surfaces (e.g., insulated gloves, suits, face shield goggles, reflective clothing).
- Dry hands often .
- Keep work areas clean and dry.
- Take time to clean glasses as needed.

**Additional Information**

- COMDTINST M6200.9 (Series), Preventing Heat Casualties
- COMDTPUB P6200.12 (Series), Preventing Heat Casualties
- COMDTINST M6260.17, Coast Guard Cutter Heat Stress Program
- COMDTINST M16000.9, (MSM) - Vol. I, Sect. 10
- NAVMED P-5010, Manual of Naval Preventive Medicine
- 29 CFR 1910, Subpart J
- NIOSH: Working in Hot Environments
- Incident Command System (ICS) Compatible Site Safety Plan

## **COLD STRESS**

Frostnip, frostbite, and hypothermia, are medical conditions associated with cold stress.

1. Frostnip is the first stage of frostbite when only the surface skin is frozen. Frostnip begins with itching and pain. The skin then blanches and eventually the area becomes numb. Treat by moving to a warmer area and following the treatment recommendations for frostbite. Consult a physician.
2. Frostbite is damage to tissues from freezing due to the formation of ice crystals within cells, rupturing the cells, and leading to cell death. Frostbite occurs when temperatures are below freezing. Symptoms include a burning sensation at first, whitened areas of skin, blistering, and the affected part may be cold, numb, and tingling. Treat by covering the frozen part, providing extra clothing and blankets, placing the affected part in warm water or covering with warm packs. Discontinue warming when part becomes flushed and swollen. Exercise part after warming, but place no pressure on the affected area. Give sweet, warm fluids. Do not rub part with anything. Do not use heating devices on part. Obtain medical assistance.
3. Hypothermia is a reduction in core body temperature that occurs when exposure to cold causes a person's body to lose heat faster than it can be replaced. Symptoms include pain in extremities, uncontrollable shivering, reduced core temperature, cool skin, rigid muscles, slowed heart rate, weakened pulse, low blood pressure, slow irregular breathing, slurred speech, drowsiness, incoherence, lack of coordination, diminished dexterity, and diminished judgment. Treat by moving victim from wind, snow, and rain and minimize the victim's use of energy. Keep the victim awake. Remove wet clothing and get into dry clothing. Wrap victim with a blanket. Pack neck, groin and armpits with warm packs or warm towels. Give sweet, warm drinks. Take the victim to a medical facility.

### **Environmental Factors that Increase Risk of Cold Stress Include:**

- Extreme cold
- Prolonged exposure to mild cold (30° F to 50° F)
- Cooling rates of a person immersed in water are 25 to 30 times faster than a person in air of the same temperature
- Wetness
- Wind-chill
- Inadequate clothing

### **Physiological Factors that Increase Risk of Cold Stress Include:**

- Illness and conditions which reduce one's ability to move
- Fatigue or poor physical condition
- Old age or infirmity
- Alcohol consumption

- Medications

**Safe Work Practices to Prevent Cold Stress**

- Dress warmly – using the right balance of protective clothing. Examples include windproof layer over other layers of clothes; wear a hat, gloves, and proper footwear for cold and wet conditions; ensure that clothes don't cause overheating. Drink liquids, but avoid alcohol. Eat high-energy snacks.
- Follow work/rest regiments and use a warm location for breaks.
- Keep dry. Don't go outdoors alone; establish shelters, canopies, or other devices to reduce wind effect.
- Minimize sitting still or standing around.
- Ensure proper sleep and proper diet.
- Take action to warm extremities when fingers and toes feel cold.
- On the water, wear PFD, float-coat, or exposure/mustang suit. If you fall into the water, hold knees up close to your body; keep head out of water; fold arms over chest; and/or huddle with others.

**Additional Information:**

- NAVMED P-5010, Manual of Naval Preventive Medicine
- ICS Compatible Site Safety Plan

### PREGNANT SERVICE WOMEN

Detailed, specific guidance for the protection of the health of pregnant servicewomen can be found in Coast Guard Personnel Manual (CIM 1000.6A), Chapter 9. The member's Department Head or Supervisor, with advice from the servicewoman's health care provider, shall determine if any environmental hazards or toxins exist which may require reassignment of the member within the command for the duration of the pregnancy.

A pregnant member shall be restricted from exposure to the following agents. Non-detectable levels of exposure are best, but the following limits are given in the Coast Guard Personnel Manual (CIM 100.6A), Chapter 9.

AGENT	PROVISIONAL EXPOSURE LIMITS
Lead	0.050 mg/m <sup>3</sup> (maternal blood Pb less than 30 µg/100ml)
Cadmium	0.010 mg/m <sup>3</sup>
Mercury	inorganic 0.050 mg/m <sup>3</sup> organic-alkyl 0.010 mg/m <sup>3</sup> organic-aryl 0.050 mg/m <sup>3</sup>
Benzene	1 ppm, OSHA exposure limit; Sector policy is 0.5 ppm due to new ACGIH TLV-TWA.
Carbon Disulfide	4 ppm
Chlordane	0.5 mg/m <sup>3</sup>
Ethylene Oxide	1 ppm
Glycol Ethers	2-ME 5 ppm, 2-EE 5 ppm
Ethylenedibromide	1 mg/m <sup>3</sup>
Perchloroethylene	25 ppm
Chlorinated Biphenyls (PCB'S)	42 percent CL 1.0 mg/m <sup>3</sup> , 54 percent CL 0.5 mg/m <sup>3</sup>
Carbaryl	5 mg/m <sup>3</sup>
Halogenated Anesthetic Gases	2 ppm
Nitrous Oxide	50 ppm

- Known chemical, biological, or physical agents in excess of Coast Guard workplace standards found in chapter 4 of the Safety and Environmental Health Manual, COMDTINST 5100.47 (series).
- Radio frequency (RF) radiation of 60 Khz and up, which is the same limits set for non-pregnant members.
- Ionizing radiation not to exceed 0.5 rem during the entire gestation period.
- Firefighting activities.
- Personnel Manual Chapter 9.A.1.d. lists the following activities which pregnant servicewomen will be exempt from:
  - Areas that could result in possible harmful effects, such as chemical, biological, and radioactive (CBR) training; regular unit physical training; certain unit qualification tests; or hands-on elements of skills qualification tests.
  - Standing at parade rest or attention for longer than 5 minutes.
  - All immunizations except tetanus-diphtheria, unless clinically indicated.
  - Participation in weapons training, boat crew training, swimming qualifications, and any other physical training requirements that may affect the health of the servicewoman and/or the fetus.
  - Diving or rescue swimmer duty.
  - Exposure to chemical or toxic agents and environmental hazards. During the last 3 months of pregnancy, the Commanding Officer or Officer in Charge should monitor and limit the servicewoman to a 40-hour workweek. The hours may be distributed among any seven-day period, but hours are defined by her presence at a duty station, and not by type of work performed. Pregnancy does not excuse a servicewoman from watchstanding responsibilities, but all hours worked shall count toward the 40-hour limitation. The servicewoman may request a work waiver to extend her hours beyond the stated 40-hour week, if she is physically capable and her attending physician concurs.

There may be other possible restrictions of a medical, environmental, or ergonomic (where the individual's physical configuration and/or abilities preclude her from continuing with specific activities, or where nausea or exhaustion would be hazardous to the woman, the unborn child, other members of the unit, or the general public) nature identified by the health care provider or Commanding Officer.

Women and their supervisors should familiarize themselves with Chapter 9 of the Coast Guard Personnel Manual.



## **BOAT OPERATIONS**

Sector Delaware Bay and subunits' operations require the use of small boats to carry out assigned missions. Hazards associated with the operation of small boats will be reduced to a manageable level through adherence to these SWPs.

### **Risks to You**

- Slip, Trip, Fall Hazards
- Drowning
- Cold Stress
- Heat Stress
- Man Overboard
- Collision
- Uncooperative Interaction with the Boating Public
- Weapons Safety
- Synthetic Line Snapback
- Engine Casualty (Explosion)
- Noise

### **Safe Work Practices**

- A fully qualified coxswain must operate the boat.
- Boat crew must include a qualified boat crewman.
- Wear mustang exposure suits and gloves on weather deck if water temperature is less than 60 degrees Fahrenheit.
- Wear lifejackets or float coats while in boat.
- Wear SAR survival kit for night operations.
- Wear hearing protection.
- Wear sunglasses on sunny days.
- Wear sunscreen.
- Remain seated while boat is in operation.
- Wear shoes designed to maintain footing on wet surfaces.
- Do not overload the boat.
- Always operate boat at safe speed.
- Coordinate underway boardings with vessel operator.
- Approach any pollution source from upwind and continually monitor wind direction.
- If weapons are carried, follow safe handling procedures.

Additional Information/Adhere to instructions found in:

- COMDTINST M16114 (Series) - Boat crew Seamanship Manuals
- COMDTINST M10470.10B - Survival System Manual
- COMDTINST M16672.2B - Navigation Rules
- COMDTINST M16247 (Series) - MLE References

## **VESSEL BOARDINGS**

Extra efforts will be made to schedule boardings while vessels are at anchor or at the pier but times will arise when a vessel must be boarded while it is underway. In these situations, a PFD, float coat, or "mustang suit" should always be worn. Crew on the launch/small boat should be standing by to quickly recover anyone who falls in the water. Boardings should only be done in fair weather. If weather or sea conditions make boarding the vessel hazardous in the opinion of the boarding officer or inspector, then the visit to the vessel will be postponed to a later, safer time. Before boarding, if at all possible, the vessel being boarded should be directed to maintain a constant heading in the best direction to make a safe lee and slow speed (fast enough to maintain bare steerageway). The vessel should be boarded on the side of the vessel where sea conditions are calmest; this will usually be on the leeward side.

### **Risks to You**

- Slips, trips, and falls onto gangway, pier, or into the water.
- Moorings at pier are too loose.
- Gangway or accommodation ladder railings are too loose.
- Improperly secured gangway, accommodation ladder, or Jacob's ladder.
- Rough seas that make transfer from small boat to anchored or underway vessel more difficult and potentially dangerous.
- Possible heat- or cold-related illness if improperly clothed. See Heat and Cold Stress SWPs.

### **Safe Work Practice for Embarking or Debarking Vessels Underway, at Anchor, or at the Port**

- Identify any cargo hazards before boarding vessel, particularly if cargo transfer operations are underway.
- Notify facility and vessel personnel before boarding.
- Ensure safe access and egress routes on vessel prior to going aboard.
- Always wear a hardhat, leather gloves, long sleeve coveralls, and a PFD, float coat or mustang suit (for vessels at anchor or underway) when conducting a boarding. In wet, slippery conditions, the boarding officer may feel safer climbing a Jacob's ladder without gloves or hard hat, which should be passed to the vessel via a heaving line with other gear.
- For ships tied to a pier, ensure a safety cargo net is underneath the gangway.
- Ensure that there is a heaving line available.
- If a Jacob's ladder is used for boarding, ensure that it is properly secured and in good condition.
- Try to schedule boardings during the day. If not possible, ensure that there is adequate lighting for night boardings. Do not conduct armed boardings at night.
- If using a Jacob's ladder, don't carry anything. Always pass gear to the vessel with a heaving line. Keep hands free for climbing and do not wear backpacks.

## **FOREIGN VESSEL BOARDINGS**

The issues discussed here can be found on a U.S. vessel, but are more likely to be found on a foreign vessel.

### **Risks to You**

- Oxygen/acetylene cylinders aboard vessel.
- Cylinders not properly secured.
- Higher than normal risk of fire or explosion due to above conditions.
- Contaminated water.
- Contaminated food.
- Bacterial infection.
- Contagious diseases.
- Exposed pipes in engine rooms present a burn hazards as well as a possible asbestos hazards specifically when dealing with foreign vessels as foreign standards are not as stringent.
- Machinery with exposed rotating/moving parts and belts
- Possible heat- or cold-related illness if improperly clothed. Refer to Heat and Cold Stress SWPs.

### **Safe Work Practices**

- Ensure valve protection caps are secured on gas bottles.
- Ensure gas bottles are stowed properly and dunnaged.
- Ensure gas bottles are properly segregated.
- Ensure proper handling of compressed gas bottles.
- Ensure that there are not an excessive number of gas bottles on board. (Cylinders exceeding normal storage facilities).
- Exercise caution regarding sanitary and general health conditions.
- Upon boarding vessel ask master about health of crew.
- Avoid eating and drinking on foreign vessels if at all possible. If you must eat or drink on a foreign vessel, take the following precautions:
  - Ensure personnel who serve you food or drink practice proper hygiene (i.e., are clean, have no open sores, etc). Avoid drinking water from the vessel or beverages made from the vessel's water (coffee, tea). Avoid eating uncooked food, or cold foods.
  - Avoid drinking cans of soda without washing off the top.
- Avoid water droplets spread by coughing, talking, and sneezing.
- Wash your hands before eating or drinking (if these can't be avoided) and after completing the boarding.
- Remember to use common sense and plan ahead.
- Avoid touching exposed steam and engine exhaust pipes.

- Beware of machinery missing protective guards around belts and rotating parts.
- **Asbestos**: Foreign standards regarding asbestos are not as stringent as U.S. standards. Asbestos is commonly found in pipe/valve lagging and boiler insulation. If there appears to be friable asbestos (loose and would appear to be easily pulverized with hand pressure) require that the owner/operator obtain air sampling by a qualified person before working in the space. Require air sampling by a qualified person before entering any engine room or machinery space that has been involved in a fire. Contact the Sector Delaware Bay Unit Safety Coordinator, Safety Manger, MLCLANT detached SEHO, or MLCLANT (kse) for further guidance.

## CARGO TRANSFER MONITORS

### Risks to You

Vapor or liquid may be poisonous if inhaled, absorbed through the skin, or ingested due to poor hygiene practices.

- Vapor may be explosive or flammable.
- Vapor or liquid contact may burn eyes and skin.
- Explosive or radioactive cargoes, if mishandled could lead to catastrophic problems, including explosion and fire in the case of explosives and radiation sickness or cancer in case of radioactive cargoes.
- Possible heat- or cold-related illness if improperly clothed (Refer to Heat and Cold Stress SWPs).
- Slips, trips, and falls.
- Drowning after falling in water.
- Injury from operating/rotating machinery.
- Head injury from walking into overhead pipes or other objects.

<b>HAZARDS</b>			
Transfer Operations		Hose Connect/Disconnect	
Loading	High Vapor Potential	All Operations	High Vapor/Splash Potential
Offloading		Low Vapor Potential	
Hot Weather		Higher Vapor Potential	
Cold Weather		Lower Vapor Potential	
Vapor Recovery Systems		Lowest Vapor Potential	
Slips, Trips, and Falls		Ignition Sources	Operating or Rotating Machinery
Weather	Winter-icy conditions  Other seasons -wet spots	Welding, smoking, open lights, unsafe electrical apparatus	Cargo pumps, cargo pump engines, generators, etc
On Deck		Deck appendages (i.e., piping, hatches), cables, and cargo on deck, etc.	
Approach		Ladders, catwalks, piping, mooring lines & cables, etc.	

**SAFE WORK PRACTICES TO BE FOLLOWED FOR SUSPENDED LOADING,  
OFFLOADING, AND VAPOR RECOVERY SITUATIONS:**

- Identify cargo before boarding and obtain MSDS from an upwind location. Do this before leaving the office, if possible.
- Carry an EEBD.
- Do not smoke unless at a designated safe smoking area.
- Wear hardhat, PFD or float coat, safety shoes, chemical splash goggles, and bring earplugs.
- Determine wind direction before boarding.
- Avoid vapor sources by staying upwind or at an angle upwind and to the side of vapor sources such as vents, ullages, PV valves, and other valves, gauging apparatus and pumps that may have loose packing.
- Use an oxygen/combustible gas meter if appropriate for type of cargo.
- Leave area if leaks are detected.
- Stay well clear of operating machinery.
- Think about retrieval options should a team member go overboard.
- Do not enter confined spaces.
- If practicable, avoid staying onboard vessel during any transfer of liquid cargo. This SWP prohibits being on board during loading operations unless a vapor recovery system is used.
- Watch out for deck appendages, cables, and other slip, trip, and fall hazards
- Avoid improperly lighted areas.
- Wear hearing protection if you have to raise your voice to communicate (e.g., during offloading).
- Avoid being in the immediate area of hose hookup and disconnect operations.

A member specifically qualified to witness this type of operation should lead monitors of explosive or radioactive cargo load-outs. These operations will be permitted only after a detailed load-out procedure has been reviewed and approved by the Prevention Department Personnel monitoring these types of load-outs must have the appropriate qualification and ensure that proper procedures are followed.

**SWP # 310**  
**ABOVE DECK ACTIVITIES DURING CARGO TRANSFER**

**SAFE WORK PRACTICES TO BE FOLLOWED FOR LOADING SITUATIONS  
WHERE A VAPOR RECOVERY SYSTEM IS NOT USED:**

- Identify cargo before conducting transfer monitor and obtain MSDS from an upwind location. Do this before leaving the office, if possible.
- Carry an EEBD.
- Do not smoke unless at a designated safe smoking area.
- Wear hardhat, safety shoes, chemical splash goggles, and bring earplugs. Have PFD or float coat readily available in case you suspend the transfer and board the vessel.
- Determine wind direction before conducting transfer monitor.
- Avoid vapor sources by conducting transfer monitor from a safe location on the facility, staying upwind or at an angle upwind and to the side of vapor sources such as cargo manifold, vents, ullages, PV valves, and other valves, gauging apparatus and pumps that may have loose packing.
- Ask the person in charge to obtain the vessel's paperwork from the tankerman for your review.
- Use an oxygen/combustible gas meter (Gas Alert Four Gas meter or GAC/GAMIC) if appropriate for type of cargo.
- Leave area if leaks are detected.
- Stay well clear of operating machinery.
- Think about retrieval options should a team member fall in the water.
- Do not enter confined spaces.
- Watch out for slip, trip, and fall hazards on the pier including uneven surfaces, slippery surfaces, cables, hoses, etc.
- Avoid improperly lighted areas.
- Wear hearing protection if you have to raise your voice to communicate.
- Avoid being in the immediate area of hose hookup and its connect operations.
- If you determine that the vessel needs to be boarded because you cannot see enough from a safe location to complete the boarding to your satisfaction, or you need to investigate further, call the office and request permission to require the company to conduct a temporary shutdown, then follow the SWP for a suspended loading situation.

**SWP # 400**  
**FACILITY INSPECTIONS (WATERFRONT)**

**Risks to You**

- Vapor or liquid may be poisonous if inhaled, absorbed through the skin, or ingested due to poor hygiene practices. Multiple cargo operations may result in multiple/low level exposures, the effects of which have not been fully characterized.
- Vapor may be explosive or flammable.
- Vapor or liquid contact may burn eyes and skin.
- Possible heat- or cold-related illness if improperly clothed. (See SWPs on Heat and Cold Stress.)
- Slips, trips, and falls due to uneven walking surfaces, hoses, cables, and access ladders.
- Hearing loss due to hazardous-noise areas.
- Drowning due to falls overboard.

**Safe Work Practices**

- Review the facility operations manual and file prior to inspection.
- Wear hearing protection as needed.
- Depending upon cargo being handled by facility determine the necessity of using intrinsically safe communications and tools.
- Use of PFD or float coat when walking or working within 6 feet of unguarded or un-railed deck edge.
- Wear chemical splash goggles when near cargo manifolds, under fixed product lines, around flexible hoses carrying product and any place where open liquid surfaces present a splash hazard (possibly drip pans).
- Consult with safety personnel at the facility's safety office on special hazards.
- Carry EEBD whenever there is a potential for a significant change in atmospheric conditions (oxygen reduction or toxic vapor release) such as near compressed or liquefied cargoes and near cargo transfers. EEBDs are required to be carried at all times when outdoors at the large or complex facilities in our Area of Responsibility (AOR) that transfer and/or manufacture high-hazard cargoes. The EEBD may give you the few minutes needed to get to a shelter-in-place location in the event of a large incident.
- Review MSDS/CHRIS/American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) Booklet for cargoes being transferred adjacent to the targeted waterfront activity.
- Check for hot work.
- Discuss site hazards with person in charge.
- Always be accompanied by a facility representative.



- Know the shelter-in-place locations for the areas you will inspect and have an emergency escape plan.
- Know the emergency alarms.
- Maintain three points of contact when climbing vertical ladders (2 hands/1 foot or 1 hand/2-feet).
- Minimize stay time at the facility.
- Avoid potential vapor sources (piping, relief valves, hose connections, etc.) by staying upwind or upwind and at an angle from vapor sources.

**Additional Information**

- MSM VOL I, CH 10; MSM VOL II, SEC B, CH 7
- Unit Facility Inspection Checklist

## **CONFINED AND ENCLOSED SPACES (GENERAL)**

### **Risks to You**

- Low OXYGEN content that may cause asphyxiation is the most significant hazard associated with confined space entry.
- FLAMMABLE CARGO VAPORS may cause an explosion or fire.
- RESIDUAL TOXIC CARGOES may cause injury, illness, or death if inhaled or absorbed through skin.
- FALL, TRIP, ENTANGLEMENT, ENTRAPMENT, ENGULFMENT, and release of ENERGY (electrical, hydraulic, mechanical, etc.) sources.

### **Definition of Confined Space**

An area that has the following characteristics as defined by 29 CFR 1910.146 (b):

- Is large enough and so configured that an employee can bodily enter and perform assigned work;
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and
- Is not designed for continuous employee occupancy.

### **Examples of Confined Spaces Normally Encountered**

- Cargo tanks or fuel tanks
- Cargo holds
- Pump rooms and cofferdams
- Storage lockers
- Other spaces with limited access
- Spaces adjacent to cargo or fuel tanks such as voids, double bottoms or sides
- Forepeak/rake ends
- Crawl spaces or access ways
- Compartments which have been sealed
- Non-ventilated compartments that have been freshly painted or coated
- Spaces containing cargoes that absorb oxygen (scrap iron, fresh fruit, molasses, vegetable oils, any organic matter which might decay)
- Spaces underneath docks or narrow channels w/ high banks and limited airflow
- Bilges of vessels below floor plates
- Machinery or other structures that may not normally be thought of as a space, such as: large piping systems, engine crankcases, large heat exchangers, scavenging spaces, boiler mud or steam drums, etc.
- Shipping containers

### **Safe Work Practices General**

- Sector Delaware Bay personnel shall not enter confined spaces unless a certified Marine Chemist certifies the space “ATMOSPHERE SAFE FOR WORKERS”. If the space is not entered immediately after testing by the Marine Chemist, ensure that a Shipyard Competent Person has properly maintained the Marine Chemist Certificate. The only exceptions to this rule will be defined in the individual SWPs within the Marine Safety Manual Volume 1, Chapter 10, Appendix A.
- Acceptable limits for atmospheric tests are:
  - Oxygen 19.5% to 22 % by volume. If the oxygen reading is anything other than the ambient level (approximately 20.8% by volume), the space should not be entered until the reason is determined and is certified to be safe.
  - Flammable vapors or gases Less than 10% of the Lower Explosive Limit (LEL). [Any reading between 1 and 10% should be evaluated with caution prior to entry. Readings in this range may indicate that a toxicity hazard may exist.]
  - Toxic vapor or gas concentration Lower than the lesser of the OSHA Permissible Exposure Limit (PEL) or ACGIH TLV concentration, treated as a ceiling limit.
  - Welding fumes cannot be measured with direct reading instruments. Therefore, Sector Delaware Bay personnel will not enter confined spaces where welding is being conducted unless it is done in accordance with SWP # 111 of Marine Safety Manual Volume 1, Chapter 10, Appendix A.
- A Marine Chemist Certificate becomes invalid if:
  - The vessel is moved to another location (unless the movement is specified in the original Marine Chemist Certificate)
  - The Competent Person Log (OSHA Form 74 or equivalent) has not been completed to maintain the Marine Chemist Certificate at least every 24 hours since the issuance of the Certificate. The Competent Person should test more often if work conditions such as welding, breaking for lunch while leaving equipment inside, etc., indicate the need for more frequent testing.
- Exception – If the yard completely shuts down, Competent Person testing may be suspended over the weekend. All work must stop on all vessels. No vessels may be moved into, out of, or within the yard during the stoppage. The Competent Person must test all spaces before any entry on Monday morning.
  - Atmospheric conditions in the confined space have changed.
  - Any of the conditions required by the Chemist in the Certificate have not been met.
  - Work is not commenced within 24 hours of issuance of the Certificate unless otherwise noted on the certificate.
- Marine safety personnel shall not enter spaces or atmospheres containing toxic vapors, gases, dusts, mists, or fumes that exceed the OSHA PEL or ACGIH TLV concentration, whichever is less. Respirators shall not be worn as primary protection; however, air-purifying respirators may be used for secondary or back-up protection. They may also be used voluntarily for nuisance dusts or odors. If respirators are used under any conditions, the unit must be in full compliance with the Technical Guide:

Practices for Respiratory Protection, COMDTINST M6260.2C, which includes a written program, medical evaluations, and fit testing.

- A personal oxygen alarm shall be worn by Coast Guard personnel entering any confined space.
- Carry an EEBA or EEBD if you will be near compressed or liquefied cargoes, in pump rooms, during initial pollution response activities or other emergency response activities, during testing of compressed gas fire extinguishing systems, and during Subchapter O cargo tank entries to the extent that it does not create a safety hazard.
- Use intrinsically safe or explosion proof equipment unless all the spaces in the entire cargo block are certified “Atmosphere Safe for Hot Work.” Only Underwriters Laboratories (UL) approved, Class I Division I Group D equipment, including flashlights and radios, may be used. Leave your cell phone in the car or shipyard office. Use of an inspection hammer in a space designated “Safe for Workers” is authorized, unless a note on the permit or certificate indicates otherwise.
- Be accompanied by a person responsible for the work you are inspecting and exchange information regarding hazards that may be encountered before entering the space. Let the responsible person enter first and leave last.
- Agree on a communications system—radio, whistle, voice, etc.
- Discuss access and egress plans for normal and emergency conditions with all personnel who will be entering the space. Take particular care to ensure trainees understand the plan. If ventilation duct work or fans will block the only access/egress hatch, require the person responsible for the work to have an attendant standby the hatch and move the equipment when personnel need to access or egress the space.
- Obtain information from the shipyard or vessel (including offshore facilities) personnel regarding their rescue procedures including equipment that might be used. Most shipyards in our AOR have their own rescue personnel. If vessels outside of shipyards do not have confined space rescue equipment, the unit may have to remind the vessel to arrange with the fire department or contract with a local confined space entry rescue team to ensure a rescue team is available. In areas where there are no available rescue services the provisions in SWP for CONFINED SPACE SAFETY – VESSELS OUTSIDE OF SHIPYARDS shall be followed. **Note:** The procedures contained in that SWP do not meet the rescue team requirements in 29 CFR 1915 and although it has been determined to be more protective than the OSHA requirements, CG civilian personnel cannot use the procedures until the Secretary of Labor approves an alternative. Ensure you understand who will conduct the rescue and procedures that will be used.
- Never climb more than six (6) feet above any surface without proper ladders, staging, scaffolding or a personal fall arrest system. If a personal fall arrest system will be used, Coast Guard members must receive training from the shipyard or vessel crew on the use of their system and review documentation that the system meets OSHA requirements in 29 CFR 1915 Subpart B. Ensure staging and scaffolding is properly erected. Don’t overload staging or scaffolding with too many people at once.
- Move slowly as you climb over structural members. Beware of oil or water that could make surfaces slippery.

- Move down ladders slowly. Test each rung before you put your full weight on it. Have the vessel representative descend first. Check the ladder for wastage and poor welds as you descend.
- Forced mechanical ventilation must be provided for the space and configured to ensure thorough mixing throughout all reaches of the space. Forced mechanical ventilation must be in place long enough to allow three air changes prior to entry by Sector Delaware Bay personnel. The following discussion summarizes good confined space safety ventilation.
- Use earplugs if you have to raise your voice to communicate.
- Schedule inspections to minimize heat stress.
- Record substances that you may have been exposed to on your current Occupational Exposure History, CG-5447 (available in Adobe Forms).

### Review of Confined Space Ventilation

With forced mechanical ventilation, ideal mixing is desired. This means that the clean air is blown throughout the tank and dilutes the contaminants. The contaminants are slowly removed with the air being blown out of the tank. Short-circuiting is the biggest obstacle to good mixing. For welders, local exhaust ventilation should be used along with general supply ventilation. Sector Delaware Bay personnel are not authorized to enter a space where welding is being conducted.

In determining whether three air changes have occurred in a confined space, the type of ventilation (natural or mechanical), duct configuration, and potential sources of contaminants need to be considered. This guide is intended to help inspectors determine the length of time needed to make 3 complete air changes in a space and determine whether the duct configuration is adequate. The calculations assume ideal mixing and that the flow rate of the fan is equal to its rated capacity, neither of which will be true under real conditions. Therefore, additional time should be added based on the ventilation configuration and condition of the fans.

Calculating Time to Complete 3 Air Changes, Assuming Ideal Mixing Conditions	
$\text{Minutes for 3 air changes} = (\text{Volume of Space (ft}^3) \div \text{Flow rate of fan (cfm)}) \times 3$	
Example:	
A tank is 20 feet long by 35 feet wide by 10 feet high. The fan's capacity is 2000 cfm.	
Assuming ideal mixing, how long will three air changes take?	
Answer: Volume of space = 20 ft X 35 ft X 10 ft = 7000 ft <sup>3</sup>	
Time for 3 air changes = (7000 ft <sup>3</sup> ÷ 2000 cfm) X 3 = 10.5 minutes	

**Table for determining time for 3 air changes, assuming ideal mixing (times listed are in minutes):**

TIME FOR 3 AIR CHANGES (Minutes)							
Volume of Space (Ft <sup>3</sup> )	Flow Rate of Fan (CFM)						
	500	1000	1500	2000	2500	3000	5000
5000	30	15	10	7.5	6	5	3
10,000	60	30	20	15	12	10	6
25,000	150	75	50	37.5	30	25	15
50,000	300	150	100	75	60	50	30
100,000	600	300	200	125	120	100	60
200,000	1200	600	400	250	240	200	120
500,000	3000	1500	1000	625	600	500	300
1,000,000	6000	3000	2000	1250	1200	1000	600

For all SWPs referenced below please follow the policies and procedures in accordance with the Marine Safety Manual, Volume 1, Chapter 10, Appendix A.:

- 100: Confined and Enclosed Spaces (General)
- 110: Confined and Enclosed Spaces: Entry in the Shipyard Environment
- 111: Entering Confined Spaces on Vessels in Shipyards Where Welding is Being Conducted
- 120: Confined and Enclosed Spaces: Pump Room Entry Aboard Vessels Outside the Shipyard Environment
- 130: Confined Spaces: Entry Aboard Vessels Offshore
- 140: Confined Spaces: Cargo Tank Rafting Inspections
- 150: Confined and Enclosed Spaces: Entry Aboard Vessels Outside of Shipyards
- 160: Confined Spaces: Intermodal Container Inspection Ashore
- Confined spaces should not normally be entered during response or investigation activities. These situations are non-routine and often dynamic, requiring additional precautions to address potential hazards. If necessary to enter a confined space during these activities, the appropriate SWP shall be followed for the type of space being entered, all hazards must be addressed, and authorization must be received from the Commanding Officer. Strike Team assistance may be needed if the hazards cannot be completely removed from the space or entry is otherwise beyond the capability of local resources.
- When entering any confined space not specifically noted above, the most appropriate SWP shall be adapted to afford the greatest degree of protection.
- If the space to be entered is not on a vessel or in a shipyard, then the appropriate OSHA regulation will be 29 CFR 1910.146. Sector Delaware Bay personnel have not received training on these types of entries and should not conduct them without consulting the MLC detached Safety and Environmental Health Officer (SEHO) or MLC (kse) staff.

## **CONFINED AND ENCLOSED SPACES: ENTRY IN THE SHIPYARD ENVIRONMENT**

### **Risks to You**

- Low OXYGEN content is the most significant hazard associated with confined space safety and may cause asphyxiation.
- FLAMMABLE VAPORS may cause an explosion or fire.
- RESIDUAL TOXIC CARGOES may cause injury, illness, or death if inhaled or absorbed through skin.
- FALL, TRIP, ENTANGLEMENT, ENTRAPMENT, ENGULFMENT, and release of ENERGY (electrical, hydraulic, mechanical, etc.) sources.

### **Safe Work Practices Steps Prior to Entry**

- Review SWP #100 for CONFINED AND ENCLOSED SPACES (GENERAL)
- Review the Material Safety Data Sheet/CHRIS or other data sheet for the last three cargoes/materials carried in the cargo space or adjacent space to be entered.
- Ensure that Marine Chemist Certificate and Competent Person Log (if needed) address all potential oxygen, flammability and toxicity hazards and that they are at acceptable levels.
- Review any other requirements on the Marine Chemist Certificate and ensure they are being followed.
- Verify that proper forced mechanical ventilation is in place & 3 air changes have occurred.
- Determine whether a personal fall arrest system will be needed and obtain equipment and review procedures with shipyard personnel. Receive training if you haven't already.
- Determine if an EEBA/EEBD is needed. For a vessel in a shipyard, an EEBA/EEBD is required if there is a potential for a significant change in the environment such as a valve being opened and cargo entering the space, pumps running in an engine room, compressors operating in a compressor room aboard a gas ship, action of workers walking through muck in the bottom of the space and releasing hydrogen sulfide or other gases/vapors, spaces where inert gas may be inadvertently introduced, etc. This equipment will not normally be needed if the space is tested prior to entry and ventilation is maintained and there is no potential for sudden change in the environment.
- Check the condition of your EEBA/EEBD if carriage is required.
- Check operation of oxygen alarm.
- Ensure that radios and flashlights are intrinsically safe or explosion proof unless all spaces in the cargo block are certified "Safe for Hot Work."
- Review emergency rescue procedures. Receive training if needed.



- Be accompanied by the yard supervisor or person responsible for the work. Let the yard representative enter first and leave last.
- Carry a personal oxygen alarm or a combination oxygen/flammability/toxic meter.
- Immediately leave the space if:
  - Your personal monitor or meter alarms;
  - You feel dizzy or light-headed;
  - The forced air ventilation stops or is apparently ineffective;
  - If you sense any unexpected chemical through smell or dermal sensation that concerns you. This is a judgment call; however, you should depart any time there is a burning sensation in your lungs or you experience shortness of breath. Any of these sensations may indicate a life-threatening situation and you must react promptly to avoid injury.
- Never climb more than six (6) feet above any surface without proper ladders, staging, scaffolding, or a personal fall arrest system.

#### **Steps After Entry**

- Contact your supervisor, Sector Duty Officer, Unit Safety Coordinator, or Deputy immediately if you had to leave a space as noted above. Do not reenter any space until notification of appropriate senior personnel and direction from your supervisor is obtained.
- Report any inconsistencies on the Marine Chemist Certificate to your supervisor, Unit Safety Coordinator, or Deputy and follow-up with a letter for command signature to Commandant (G-PSO-3) via District.
- In the event of overexposure, personnel should be evacuated to appropriate medical facilities by the most expeditious means. Medical personnel should be provided with all known information on the suspected exposure, including substance, concentration and duration of exposure. This should include the most probable route of exposure. Also provide the medical authority with the ATSDR phone number:

(404) 498-0120

More specific guidance on medical procedures for acute exposures can be found in the Acute Exposure and Mishap QRC and in Chapter 12 of the Medical Manual, COMDTINST M6000.2(series). The Safety Manager, Deputy (XO), or Sector Duty Officer should also contact the MLC detached SEHO for assistance, or call ATSDR directly if the SEHO is not readily available. Record substances that you may have been exposed to on your current Occupational Exposure History, CG-5447 (available in Adobe Forms).

## **CONFINED AND ENCLOSED SPACES: ENTRY ABOARD VESSELS OUTSIDE OF SHIPYARDS**

### **Risks to You**

- Low OXYGEN content is the most significant hazard associated with confined space safety and may cause asphyxiation.
- FLAMMABLE VAPORS may cause an explosion or fire.
- RESIDUAL TOXIC CARGOES may be inhaled or absorbed through skin.
- FALLING/TRIPPING HAZARDS.

### **Safe Work Practices Steps Prior to Entry**

- Review SWP #100 for CONFINED AND ENCLOSED SPACES (GENERAL)
- Review the Material Safety Data Sheet/CHRIS or other data sheet for the last three cargoes/materials carried in the cargo space or adjacent space to be entered.
- Require the space to be tested by a Marine Chemist immediately prior to entry.
- Verify that the space was tested for all potential oxygen, flammability and toxicity hazards, consistent with the last three cargoes, and that they are at acceptable levels.
- Review any other requirements on the Marine Chemist Certificate and ensure they will be followed.
- Ensure that no transfer operations have occurred since the space was certified.
- Verify that proper forced mechanical ventilation is in place & 3 air changes have occurred.
- Determine whether climbing higher than 6 feet will be needed to complete the inspection. Consider use of binoculars or video camera with zoom lens instead. If you must climb, a personal fall arrest system will be needed. Obtain equipment and training from vessel personnel.
- Determine if an EEBA/EEBD is needed. An EEBA/EEBD is required if adjacent tanks contain cargo or are inerted, there is other potential for a dynamic change in the environment such as a valve being opened and cargo entering the space, pumps running in an engine room, compressors operating in a compressor room aboard a gas ship, action of workers walking through muck in the bottom of the space and releasing hydrogen sulfide or other gases/vapors, spaces where inert gas may be inadvertently introduced, etc.
- Check the condition of your EEBA/EEBD if carriage is required.
- Check operation of your oxygen alarm.
- Ensure that radios and flashlights are intrinsically safe or explosion proof unless all spaces in the cargo block are certified "Safe for Hot Work."

- Review emergency rescue procedures with the ship's officers. If the ship has contracted with a local rescue team, that team must have training in the PPE and rescue equipment it uses, rescue duties, one person must have First Aid/CPR training, and the team must practice at least once per year. The ship's crew must inform the rescue team of the hazards on the vessel. Receive training if needed.
- If the vessel's crew will serve as the rescue team:
  - Ensure the crew is able to don and use the vessel's SCBA as required by regulation 17 of chapter II-2 of SOLAS 74/78 as part of the fireman's outfit
  - Pre-stage SCBA's
- Require an attendant to remain outside the space and maintain communication with entrants. Attendant should have ability to sound the alarm to render assistance to entrants.
- You may require a Marine Chemist to accompany the entry team.

### **Steps During Entry**

- Be accompanied by a vessel representative responsible for the work. Let vessel rep enter first and leave last
- Carry a personal oxygen alarm or a combination oxygen/flammability/toxic meter (at least one member is required to carry the GAMIC and all should carry the GAC)
- Carry an EEBA/EEBD if needed
- Immediately leave the space if:
  - Your personal monitor or meter alarms;
  - You feel dizzy or light-headed;
  - The forced air ventilation stops or is apparently ineffective;
  - If you sense any unexpected chemical through smell or dermal sensation that concerns you. This is a judgment call; however, you should depart any time there is a burning sensation in your lungs or you experience a shortness of breath. Any of these sensations may indicate a life-threatening situation and you must react promptly to avoid injury.
- Never climb more than six (6) feet above any surface without proper ladders, staging, scaffolding or a personal fall arrest system.

- Contact your supervisor, Sector Duty Officer, Unit Safety Coordinator, or Deputy immediately if you had to leave a space as noted above. Do not reenter any space until notification of appropriate senior personnel and direction from your supervisor is obtained.
- Report any inconsistencies on the Marine Chemist Certificate to your supervisor, Unit Safety Coordinator or Deputy and follow-up with a letter for command signature to Commandant (G-PSO-3) via District.
- In the event of overexposure, personnel should be evacuated to appropriate medical facilities by the most expeditious means. Medical personnel should be provided with all known information on the suspected exposure, including substance, concentration and duration of exposure. This should include the most probable route of exposure. Also provide the medical authority with the ATSDR phone number:

(404) 498-0120,

More specific guidance on medical procedures for acute exposures can be found in the Acute Exposure and Mishap QRC and in Chapter 12 of the Medical Manual, COMDTINST M6000.2(series). The Safety Manager, Deputy (XO), or Sector Duty Officer should also contact the MLC detached SEHO for assistance, or call ATSDR directly if the SEHO is not readily available. Record substances that you may have been exposed to on your current Occupational Exposure History, CG-5447 (available in Adobe Forms).

## **CONFINED AND ENCLOSED SPACES: PUMP ROOM ENTRY ABOARD VESSELS OUTSIDE SHIPYARD ENVIRONMENT**

### **Risks to You**

- RAPIDLY CHANGING ATMOSPHERE could occur due to pump failure
- Low OXYGEN content is the most significant hazard associated with confined space safety and may cause asphyxiation.
- FLAMMABLE VAPORS may cause an explosion or fire.
- RESIDUAL TOXIC CARGOES may be inhaled or absorbed through skin.
- FALLING/TRIPPING HAZARDS.

### **Safe Work Practices Steps Prior to Entry**

- Review SWP #100 for CONFINED AND ENCLOSED SPACES (GENERAL) and SWP # 110 CONFINED AND ENCLOSED SPACES: ENTRY IN THE SHIPYARD ENVIRONMENT OR SWP # 150 CONFINED AND ENCLOSED SPACES: ENTRY ABOARD VESSELS OUTSIDE OF SHIPYARDS as appropriate
  - Ensure you understand what rescue procedures will be followed.
  - Verify the presence of a litter and hoisting arrangement prior to entry.
- Review the Material Safety Data Sheet/CHRIS or other data sheet for all the cargoes being carried, and last three cargoes in each tank if possible.
- Require the space to be tested by a Marine Chemist immediately prior to entry if possible, but within at least the last 24 hours.
- Verify that the pump room was tested for all potential oxygen, flammability, and toxicity hazards consistent with the last three cargoes and that they are at acceptable levels.
- Ensure that conditions have not changed since the Marine Chemist issued the certificate
  - Ensure that the pumps have remained secured.
  - Verify that no work is being conducted in the pump room.
- Review any other requirements on the Marine Chemist Certificate and ensure they will be followed. (Remember that CG personnel are not authorized to enter confined spaces where toxic vapor levels are above PELs or TLVs).
- Verify operation of the pump room ventilation system, which is required by SOLAS to have a minimum capacity of 20 air changes per hour.
  - Ensure that the ventilation system has been running for at least 15 minutes prior to entry.
  - Ensure that there is noticeable air movement at the door to the upper pump room.

- A multi-gas detector that can measure oxygen/flammability is required. For cargoes containing hydrogen sulfide, the detector should also measure  $H_2S$ .
  - You may require the Marine Chemist to accompany you and use the Marine Chemist's detector.
  - If you are properly trained, you may use the unit's GAC/GAMIC
  - You may require the vessel rep who will accompany you to provide a multi-gas detector. If so, observe calibration of the meter prior to entry. Require a Marine Chemist to accompany you if the vessel's crew cannot properly calibrate the meter.
- An EEBA/EEBD is required. Check the condition of your EEBA/EEBD.
- Check operation of your oxygen alarm if carried in addition to the multi-gas detector.
- Ensure that radios and flashlights are intrinsically safe or explosion proof unless all spaces in the cargo block are certified "Safe for Hot Work."
- Require an attendant to remain outside the space and maintain communication with entrants. Attendant should have ability to sound the alarm to render assistance to entrants.

### **Steps During Entry**

- Be accompanied by a vessel representative responsible for the work.
- Carry the combination oxygen/flammability/toxic meter and EEBA/EEBD.
- Wear a personal oxygen alarm.
- Verify air movement at entrance to pump room.
- Carry a whistle or other device to sound an alarm.
- Verify the status of the ducting at every level of the pump room and terminate entry if ventilation is not intact.
- Immediately leave the space if:
  - Your personal oxygen monitor or the combination meter alarms;
  - You feel dizzy or light-headed;
  - The forced air ventilation stops or is apparently ineffective;
  - If you sense any unexpected chemical through smell or dermal sensation that concerns you. This is a judgment call; however, you should depart any time there is a burning sensation in your lungs or you experience shortness of breath. Any of these sensations may indicate a life-threatening situation and you must react promptly to avoid injury.
- Never climb more than six (6) feet above any surface without proper ladders, staging, scaffolding, or a personal fall arrest system.

### **Steps After Entry**

- Contact your supervisor, Sector Duty Officer, Unit Safety Coordinator, or Deputy immediately if you had to leave a space as noted above. Do not reenter any space until notification of appropriate senior personnel and direction from your supervisor is obtained.
- Report any inconsistencies on the Marine Chemist Certificate to your supervisor, Unit Safety Coordinator, or Deputy and follow-up with a letter for command signature to Commandant (G-PSO-3) via District.
- In the event of overexposure, personnel should be evacuated to appropriate medical facilities by the most expeditious means. Medical personnel should be provided with all known information on the suspected exposure, including substance, concentration and duration of exposure. This should include the most probable route of exposure. Also provide the medical authority with the ATSDR phone number:

(404) 498-0120

More specific guidance on medical procedures for acute exposures can be found in the Acute Exposure and Mishap QRC and in Chapter 12 of the Medical Manual, COMDTINST M6000.2(series). The Safety Manager, Deputy (XO), or Sector Duty Officer should also contact the MLC detached SEHO for assistance, or call ATSDR directly if the SEHO is not readily available. Record substances that you may have been exposed to on your current Occupational Exposure History, CG-5447 (available in Adobe Forms).

## **CONFINED SPACES: CARGO TANK RAFTING INSPECTIONS**

### **Risks to You**

- Low OXYGEN content is the most significant hazard associated with confined space safety and may cause asphyxiation.
- FLAMMABLE VAPORS may cause an explosion or fire.
- RESIDUAL TOXIC CARGOES may be inhaled or absorbed through skin.
- DROWNING is an immediate threat during tank rafting operations.

### **Safe Work Practices Steps Prior to Entry**

- Review SWP # 100 for CONFINED AND ENCLOSED SPACES (GENERAL)
- Vessels that typically use rafting inspection techniques are equipped with inert gas systems. A primary ventilation technique for gas freeing cargo tanks is blowing fresh air through the inert gas main and its branch. Prior to any Sector Delaware Bay personnel entering a cargo tank, there must be a complete isolation of the inert gas generator or flue gas system from the inert gas main. These systems, if activated, could quickly change the atmosphere in the cargo tank during the inspection. The inspector must personally verify this isolation or securing of the inert gas system prior to conducting the inspection.
- Review the Material Safety Data Sheet/CHRIS or other data sheet for the last three cargoes/materials carried in the cargo space or adjacent space to be entered.
- Require the space to be tested by a Marine Chemist immediately prior to entry.
- Verify that the space was tested for all potential oxygen, flammability, and toxicity hazards, consistent with the last three cargoes, and that they are at acceptable levels. Ensure that the space is certified “ATMOSPHERE SAFE FOR WORKERS,” and that the benzene and other toxic vapor levels are recorded on the certificate. (Not detected is an acceptable notation on the certificate.) Sector Delaware Bay personnel are not authorized to enter tanks that are certified, “ENTER WITH RESTRICTIONS”.
- Review any other requirements on the Marine Chemist Certificate and ensure they will be followed.
- Ensure that no transfer operations have occurred since the space was certified and that there have been no changes in valve, pump, or ventilation operations.
- Verify that proper forced mechanical ventilation, separate from the inert gas blown-down method described above, and it has been running long enough for 3 air changes to occur.



- Determine if an EEBA/EEBD is needed. An EEBA/EEBD is required if adjacent tanks contain cargo or are inerted, there is other potential for a significant change in the environment such as a valve being opened and cargo entering the space, pumps running in an engine room, compressors operating in a compressor room aboard a gas ship, action of workers walking through muck in the bottom of the space and releasing hydrogen sulfide or other gases/vapors, spaces where inert gas may be inadvertently introduced, etc.
- For rafting purposes only, EEBA/EEBDs may be positioned at the expansion dome nearest the rafting activity, equipped with a means of rapid deployment (lowering into place). This should only be done in circumstances in which the inspector feels this arrangement would provide the best protection for the activity.
- Check the condition of your EEBA/EEBD if carriage is required.
- Check operation of your oxygen alarm.
- Ensure hardhat has reflective tape to improve spotter's ability to see you.
- Check condition of Type III PFD and know how to wear it properly.
- Ensure that radios and flashlights are intrinsically safe or explosion proof and waterproof.
- Ensure you have a secondary means of emergency communication such as a whistle or air horn.
- Use of cameras and ultrasonic equipment, not intrinsically safe, may be permitted only in areas certified by a Marine Chemist as "ATMOSPHERE SAFE FOR WORKERS" and "SAFE FOR HOT WORK".
- Rafts should be of dinghy design, suitable for 2-3 persons, of heavy construction, with dual buoyancy chambers. Each chamber should be capable of supporting the designed payload. Acceptable vendors include but are not limited to West Marine, Avon, Dunlop, and Zodiac.
  - The entire perimeter of the raft must be outfitted with a grab rope. A separate tag line shall be used to assist general maneuvering and emergency recovery. Tag lines must be of sufficient length for tie off to a point that is accessible by the in-tank spotter.
- Conduct a pre-entry brief with all personnel involved with the entry or with supporting the entry.
- Review emergency rescue procedures with the ship's officers. If the ship has contracted with a local rescue team, that team must have training in the PPE and rescue equipment it uses, rescue duties, one person must have First Aid/CPR training, and the team must practice at least once per year. The ship's crew must inform the rescue team of the hazards on the vessel. Receive training if needed.
- If the vessel's crew will serve as the rescue team:
  - Ensure the crew is able to don and use the vessel's SCBA as required by regulation 17 of chapter II-2 of SOLAS 74/78 as part of the fireman's outfit

- Pre-stage SCBA's
- If the ladders in the tank are equipped with landings, require an in-tank spotter. This spotter shall be outfitted with a full-body harness and lanyard, tied off to a substantial anchorage point while stationed on a ladder platform.
- Require an attendant to remain outside the space and maintain communication with the in-tank spotter or entrants. Attendant shall conduct frequent radio checks with the in-tank spotter or entrants and notify the personnel tracker (typically the bridge watch) with the names of who has entered the tank and of any in-tank emergency. Attendant should have ability to sound the alarm to render assistance to entrants. The attendant must not leave the immediate area or be assigned any other duties unless properly relieved by another attendant.
- Require that multiple activities be channeled through one person (e.g., Chief Mate or designee) to ensure proper coordination and tracking of personnel.
- You may require a Marine Chemist to accompany the entry team.
- Do not enter the tank until after flooding procedures are completed. At no time should the water level be allowed to be within 6 feet of the deepest under deck web face flat. Filling to levels above the transverses should only be contemplated if a deck access manhole is fitted in the bay being examined to provide access to the raft and direct emergency escape.
- Rafting may continue while the tank level is being dropped, provided no potential exists for stranding the raft on an in-tank structure. Rafts shall be returned to the point of tie-off between drops if such a potential exists.
- Be accompanied by a vessel representative responsible for the work. Let vessel representative enter first and leave last.
- Carry a personal oxygen alarm or a combination oxygen/flammability/toxic meter (at least first CG person into space, and all if possible).
- Carry an EEBA/EEBD if needed.
- Immediately leave the space if:
  - Your personal monitor or meter alarms;
  - You feel dizzy or light-headed;
  - The forced air ventilation stops or is apparently ineffective;
  - If you sense any unexpected chemical through smell or dermal sensation that concerns you. This is a judgment call; however, you should depart any time there is a burning sensation in your lungs or you experience shortness of breath. Any of these sensations may indicate a life-threatening situation and you must react promptly to avoid injury.
- Discontinue rafting if vessel rolling makes the operation difficult or hazardous. The Oil Companies International Marine Forum suggests a rise/fall limit of 3 feet.
- Never climb more than six (6) feet above any surface without proper ladders, staging, scaffolding, or a personal fall arrest system.

### **Steps After Entry**

- Contact your supervisor, Sector Duty Officer, Unit Safety Coordinator, or Deputy immediately if you had to leave a space as noted above. Do not reenter any space until notification of appropriate senior personnel and direction from your supervisor is obtained.
- Report any inconsistencies on the Marine Chemist Certificate to your supervisor, Unit Safety Coordinator, or Deputy and follow-up with a letter for command signature to Commandant (G-PSO-3) via District.
- In the event of overexposure, personnel should be evacuated to appropriate medical facilities by the most expeditious means. Medical personnel should be provided with all known information on the suspected exposure, including substance, concentration and duration of exposure. This should include the most probable route of exposure. Also provide the medical authority with the ATSDR phone number:

(404) 498-0120

More specific guidance on medical procedures for acute exposures can be found in the Acute Exposure and Mishap QRC and in Chapter 12 of the Medical Manual, COMDTINST M6000.2(series). The Safety Manager, Deputy (XO), or Sector Duty Officer should also contact the MLC detached SEHO for assistance, or call ATSDR directly if the SEHO is not readily available. Record substances that you may have been exposed to on your current Occupational Exposure History, CG-5447 (available in Adobe Forms).

## **CONFINED SPACE SAFETY – SMALL PASSENGER VESSELS**

### **Risks to You**

- Low OXYGEN content is the most significant hazard associated with confined space safety and may cause asphyxiation.
- FLAMMABLE VAPORS may cause an explosion or fire.
- RESIDUAL TOXIC CARGOES may be inhaled or absorbed through skin.
- FALLING/TRIPPING HAZARDS.
- The hazards listed above must be considered in any confined space entry. However, based on historical inspections and risk assessments, and the configurations/service of Small Passenger Vessels (SPVs) in the Sector Delaware Bay AOR, most confined spaces aboard these vessels do not pose these hazards and/or the probability of these hazards is relatively low. Therefore, it is not necessary to require the owner to obtain a marine chemist certificate prior to every CG entry. However, it is essential that the inspector make a thorough evaluation and is aware of all possible hazards when considering entering any space. Marine inspectors may enter confined spaces on SPVs without testing atmospheric conditions provided that a comprehensive pre-entry assessment and remote exam has ruled out the possibility of oxygen deficiency, toxicity, and flammable/explosive atmospheric conditions. When a vessel's owner/operator requests an inspection (COI, RIN, or Hull) it is important that we request that he/she open all internal spaces well in advance of the inspection to allow the spaces to adequately ventilate prior to entry.

### **Safe Work Practices**

This policy applies to spaces on SPVs including gear lockers, storage spaces, voids, lazarettes, machinery spaces, forepeaks, tanks, and other similar spaces. Prior to entering **ANY** space, the following procedures shall be followed to determine whether or not the space poses any hazards due to reduced oxygen, toxic inhalation, flammability/explosively, or physical hazards (slip, trips, or falls):

### **Steps Prior to Entry**

- Discuss with master/owner/operator, as appropriate, his/her knowledge of the space.
  - How long has space been opened
  - How often is space entered by vessel personnel
  - Frequency and type of ventilation
  - Has any welding or painting taken place recently in the space
  - Is there any possibility that decaying organic matter could be in the space creating an oxygen deficient and/or toxic atmosphere
  - What is in the spaces immediately adjacent to the space

- Where are the vessel's fuel tanks
- Known contents of space
- Previous contents of space
- Physical hazards
- Lighting
- Ladder availability
- Machinery present; guards missing
- Alternate means of egress
- Conduct Remote Examination From Deck.
  - Use Class I Division I Explosion Proof flashlight if needed
  - Pay particular attention to any unusual odors
  - Ensure deck and side shell are free of oil which might create a slipping hazard
  - Look for loose wiring and other electrical hazards
  - Examine condition of ladders or structural members that might be used to support your weight while making entry
  - Ask new questions based on observations
- If your discussions with the vessel's Master/Owner/Operator or your remote examination indicate that there may be oxygen deficiency, flammable vapors, or toxic vapors in the space(s) you need to inspect, **STOP**. Follow the SWP # 150 for **CONFINED AND ENCLOSED SPACES: ENTRY ABOARD VESSELS OUTSIDE OF SHIPYARDS**, and require a Marine Chemist to test the space before entry.
- Determine whether climbing higher than 6 feet will be needed to complete the inspection. Consider use of binoculars or video camera with zoom lens instead. If you must climb, a personal fall arrest system will be needed. Obtain equipment and training from vessel personnel.
- An EEBA/EEBD is required unless carriage would create a safety hazard.
- Check the condition of your EEBA/EEBD if carriage is required.
- Check operation of your oxygen alarm.
- Ensure that radios and flashlights are intrinsically safe or explosion proof
- Review emergency rescue procedures with the Master/Owner/Operator. If the ship has contracted with a local rescue team, that team must have training in the PPE and rescue equipment it uses, rescue duties, one person must have First Aid/CPR training, and the team must practice at least once per year. The ship's crew must inform the rescue team of the hazards on the vessel. Receive training if needed.
- If the vessel's crew will serve as the rescue team:
  - Ensure the crew is able to don and use the vessel's SCBA as required by regulation 17 of chapter II-2 of SOLAS 74/78 as part of the fireman's outfit (This

requirement is not for “T” of “K” vessels; only applies to vessels under SOLAS on an International route).

- Pre-stage SCBA’s
- Require an attendant to remain outside the space and maintain communication with entrants. Attendant should have ability to sound the alarm to render assistance to entrants.

#### **Steps During Entry**

- Entry allowed only if fully confident entry is safe after a complete Pre-Entry Assessment and Remote Examination has ruled out the potential for oxygen deficiency, toxic/flammable atmosphere, and unacceptable physical hazards.

**CONFINED AND ENCLOSED SPACES: ENTRY ABOARD VESSELS OUTSIDE OF SHIPYARDS.**

- A personal oxygen alarm shall be worn by at least the first CG person entering the confined space. You may also carry a combination O<sub>2</sub>/Combustible Gas/Toxic Gas meter if you are qualified to operate the unit's GAC/GAMIC or if the vessel has one and you have observed its calibration.
- Carry Class I Division I Explosion Proof flashlight and other safety equipment as needed.
- Owner/operator must accompany or remain immediately available if two people can't fit in the space.
- Conduct assessment of potential hazards immediately upon entering the space.
  - If doubt arises after entry, depart immediately.
- Do not enter a confined space within a confined space. Conduct a remote examination as described above for the second confined space.
- Carry an EEBA/EEBD if needed unless it would create a safety hazard.
- Immediately leave the space if:
  - Your personal monitor or meter alarms;
  - You feel dizzy or light-headed;
  - If you sense any unexpected chemical through smell or dermal sensation that concerns you. This is a judgment call; however, you should depart any time there is a burning sensation in your lungs or you experience shortness of breath. Any of these sensations may indicate a life-threatening situation and you must react promptly to avoid injury.
- Never climb more than six (6) feet above any surface without proper ladders, staging, scaffolding, or a personal fall arrest system.

**Steps After Entry**

- Contact your supervisor, Sector Duty Officer, Unit Safety Coordinator, or Deputy immediately if you had to leave a space as noted above. Do not reenter any space until notification of appropriate senior personnel and direction from your supervisor is obtained.
- Report any inconsistencies on the Marine Chemist Certificate to your supervisor, Unit Safety Coordinator, or Deputy and follow-up with a letter for command signature to Commandant (G-PSO-3) via District.
- In the event of overexposure, personnel should be evacuated to appropriate medical facilities by the most expeditious means. Medical personnel should be provided with all known information on the suspected exposure, including substance, concentration and duration of exposure. This should include the most probable route of exposure. Also provide the medical authority with the ATSDR phone number:

(404) 498-0120

More specific guidance on medical procedures for acute exposures can be found in the Acute Exposure and Mishap QRC and in Chapter 12 of the Medical Manual, COMDTINST M6000.2(series). The Safety Manager, Deputy (XO), or Sector Duty Officer should also contact the MLC detached SEHO for assistance, or call ATSDR directly if the SEHO is not readily available. Record substances that you may have been exposed to on your current Occupational Exposure History, CG-5447 (available in Adobe Forms).



## **CONFINED SPACE SAFETY – COMMERCIAL FISHING VESSELS**

### **Risks to You**

- Low OXYGEN content is the most significant hazard associated with confined space entry and may cause asphyxiation.
- FLAMMABLE VAPORS may cause an explosion or fire.
- RESIDUAL TOXIC CARGOES may be inhaled or absorbed through skin.
- FALLING/TRIPPING HAZARDS.
- The atmospheric hazards listed above must be considered in any confined space entry. However, based on historical inspections and risk assessments, and the configurations/service of Commercial Fishing Vessels (CFVs) in the Sector Delaware Bay AOR, most confined spaces aboard these vessels do not pose these hazards and/or the probability of these hazards is relatively low. Therefore, it is not necessary to require the owner to obtain a marine chemist certificate prior to every CG entry. However, it is essential that the examiner make a thorough evaluation and is aware of all possible hazards when considering entering any space. With the exception of fish holds and lazarettes, Fishing Vessel examiners may enter confined spaces on CFVs without testing atmospheric conditions provided that a comprehensive pre-entry assessment and remote exam has ruled out the possibility of oxygen deficiency, toxicity, and flammable/explosive atmospheric conditions. This policy applies to spaces including gear lockers, storage spaces, crawl spaces, voids, access ways, machinery spaces, forepeaks, tanks, and other similar spaces.

**NOTE:** Due to the historical and inherent atmospheric/physical hazards associated with fish hold and lazarette spaces, and the predominant absence of lighting and ladders (lazarettes in particular), examiners shall **NOT** enter these spaces while conducting voluntary dockside exams. The procedure described in the Remote Examination paragraph below shall be followed for fish hold and lazarette spaces.

Prior to entering ANY space (other than fish holds and lazarettes), the following procedure shall be followed to determine whether or not the space poses any hazards due to reduced oxygen, toxic inhalation, flammability/explosivity, or physical hazards (slip, fall, entanglement, entrapment, or engulfment)

### **Safe Work Practices**

This policy applies to spaces on CFVs including gear lockers, storage spaces, voids, lazarettes, machinery spaces, forepeaks, tanks, and other similar spaces. Prior to entering ANY space, the following procedures shall be followed to determine whether or not the space poses any hazards due to reduced oxygen, toxic inhalation, flammability/explosivity, or physical hazards (slip, trips, or falls):

### Steps Prior to Entry

- When a vessel's owner/operator requests an examination, it is important that we request that he/she open all internal spaces well in advance of the examination to allow the spaces to adequately ventilate prior to entry.
- Discuss with master/owner/operator, as appropriate, his/her knowledge of the space.
  - How long has space been opened
  - How often is space entered by vessel personnel
  - Frequency and type of ventilation
  - Has any welding or painting taken place recently in the space
  - Is there any possibility that decaying organic matter could be in the space creating an oxygen deficient and/or toxic atmosphere
  - What is in the spaces immediately adjacent to the space
  - Where are the vessel's fuel tanks
  - Known contents of space
  - Previous contents of space
  - What is in the vessel's bilge
  - Is the bilge common with other spaces
  - Physical hazards
  - Lighting
  - Ladder availability
  - Machinery present; guards missing
  - Alternate means of egress
- Conduct Remote Examination from Deck.
  - Use Class I Division I Explosion Proof flashlight if needed
  - Pay particular attention to any unusual odors
  - Ensure deck and side shell are free of oil which might create a slipping hazard
  - Look for loose wiring and other electrical hazards
  - Examine condition of ladders or structural members that might be used to support your weight while making entry
  - Ask new questions based on observations
- If your discussions with the vessel's Master/Owner/Operator or your remote examination indicate that there may be oxygen deficiency, flammable vapor, or toxic vapors in the space(s) you need to inspect, **STOP**. Conclude the examination with the remote examination or follow the SWP #150 for CONFINED AND ENCLOSED SPACES: ENTRY ABOARD VESSELS OUTSIDE OF SHIPYARDS and require a Marine Chemist to test the space before entry.

- Determine whether climbing higher than 6 feet will be needed to complete the inspection. Consider use of binoculars or video camera with zoom lens instead. If you must climb, a personal fall arrest system will be needed. Obtain equipment and training from vessel personnel.
- An EEBA/EEBD is required unless carriage would create a safety hazard.
- Check the condition of your EEBA/EEBD if carriage is required.
- Check operation of your oxygen alarm.
- Ensure that radios and flashlights are intrinsically safe or explosion proof.
- Review emergency rescue procedures with the Master/Owner/Operator. If the ship has contracted with a local rescue team, that team must have training in the PPE and rescue equipment it uses, rescue duties, one person must have First Aid/CPR training, and the team must practice at least once per year. The ship's crew must inform the rescue team of the hazards on the vessel. Receive training if needed.
- If the vessel's crew will serve as the rescue team:
  - Ensure the crew is able to don and use the vessel's SCBA as required by regulation 17 of chapter II-2 of SOLAS 74/78 as part of the fireman's outfit (only required on
  - Pre-stage SCBA's
- Require an attendant to remain outside the space and maintain communication with entrants. Attendant should have ability to sound the alarm to render assistance to entrants.

### **Steps During Entry**

- Entry allowed only if fully confident entry is safe after a complete Pre-Entry Assessment and Remote Examination has ruled out the potential for oxygen deficiency, toxic/flammable atmosphere, and unacceptable physical hazards.
- (Entry not allowed into fish holds and lazarettes under this SWP; see NOTE above)
- If in doubt, do not enter and either finish the FV examination using only the remote confined space entry examination procedure or follow requirements of the SWP #150 for CONFINED AND ENCLOSED SPACES: ENTRY ABOARD VESSELS OUTSIDE OF SHIPYARDS.
- A personal oxygen alarm shall be worn by at least the first CG person entering the confined space. You may also carry a combination O<sub>2</sub>/Combustible Gas/Toxic Gas meter.
  - Carry Class I Division I Explosion Proof flashlight and other safety equipment as needed.
  - Owner/operator must accompany or remain immediately available if two people can't fit in the space.
  - Conduct assessment of potential hazards immediately upon entering the space.
  - If doubt arises after entry, depart immediately.

- Do not enter a confined space within a confined space. Conduct a remote examination as described above for the second confined space.
- Carry an EEBA/EEBD unless it would create a safety hazard.
- Immediately leave the space if:
  - Your personal monitor or meter alarms;
  - You feel dizzy or light-headed;
  - If you sense any unexpected chemical through smell or dermal sensation that concerns you. This is a judgment call; however, you should depart any time there is a burning sensation in your lungs or you experience shortness of breath. Any of these sensations may indicate a life-threatening situation and you must react promptly to avoid injury.
- Never climb more than six (6) feet above any surface without proper ladders, staging, scaffolding, or a personal fall arrest system.

### **Steps After Entry**

- Contact your supervisor, Sector Duty Officer, Unit Safety Coordinator, or Deputy immediately if you had to leave a space as noted above. Do not reenter any space until notification of appropriate senior personnel and direction from your supervisor is obtained.
- Report any inconsistencies on the Marine Chemist Certificate to your supervisor, Unit Safety Coordinator, or Deputy and follow-up with a letter for command signature to Commandant (G-PSO-3) via District.
- In the event of overexposure, personnel should be evacuated to appropriate medical facilities by the most expeditious means. Medical personnel should be provided with all known information on the suspected exposure, including substance, concentration and duration of exposure. This should include the most probable route of exposure. Also provide the medical authority with the ATSDR phone number:

(404) 498-0120

More specific guidance on medical procedures for acute exposures can be found in the Acute Exposure and Mishap QRC and in Chapter 12 of the Medical Manual, COMDTINST M6000.2 (series). The Safety Manager or Sector Duty Officer should also contact the MLC detached SEHO for assistance, or call ATSDR directly if the SEHO is not readily available. Record substances that you may have been exposed to on your current Occupational Exposure History, CG-5447 (available in Adobe Forms).

SWP # 160

**CONFINED SPACES: INTERMODAL CONTAINER INSEPTIONS ASHORE**  
**Risks to You**

**Risks to You**

Exposure to toxic substances due to HAZMAT cargoes, poisonous dusts and vapors, and corrosive or irritant liquids and powders.

- Containers are confined spaces so all the risks associated with confined spaces in general are associated with containers.
- Containers are being used to smuggle both people and contraband and so the inspector has these additional risks associated with container inspections.
- Injury from falling objects due to cargo shifting inside the container.
- Collision/injury involving container terminal vehicles & equipment due to large number of trucks, cranes, transport containers, and other vehicles moving around the container yard.
- Slips, trips, and falls due to uneven surfaces, greasy, unstable surfaces, or shifted cargo.

**Safe Work Practices**

- Follow SWP # 160 from the Marine Safety Manual Volume 1, Chapter 10, Appendix A.
- All container inspections will be conducted in accordance with SWP # 160 as listed above.
- Shipments of Poisonous by Inhalation commodities shall only be inspected externally, unless the inspection team receives authorization from the Chief, Prevention Department.
- Shipments of radioactive materials shall only be inspected externally, unless authorized by the Chief, Prevention Department and on-site assistance is obtained from state or local government radioactive materials specialists.
- Containers with “Fumigant” warning signs shall only be inspected externally depending upon date of fumigation, unless authorized by the Chief, Prevention Department and on-site assistance is obtained from the appropriate U.S. Department of Agriculture or state agricultural inspectors.
- Do not inspect containers alone. Always work with another CG member and when possible a container yard representative.
- Note container placards.
- Obtain shipping papers prior to opening container, but keep in mind that all containers should be treated as unknown.
- Know the hazard(s) before opening a container.
- Carry/wear EEBA if container holds a cargo identified as an inhalation hazard.
- When available have shipper/facility representatives open the container.

- Regardless of who opens the container, use the container door safety strap to ensure personnel safety.
- Use spotter and stand clear of doors when initially opening.
- Wear hardhat, goggles, and gloves.
- Containers are considered confined spaces and therefore shall be ventilated prior to the inspection. Allow at a minimum 15 minutes after opening doors before entering, depending upon the cargo you will need to allow a minimum of 30 minutes when dealing with a container that contained any type of poison or was fumigated. The container inspection is limited to the first 3 feet inside the doors or to the first point of blocking/bracing or dunnage.
- Immediately leave the area if: 1. You feel dizzy or lightheaded. 2. If you sense any unexpected chemical through smell or dermal sensation, however slight, exit immediately. Keep in mind that you will need to notify the appropriate personnel immediately
- Avoid climbing or walking on shifted cargo.
- Note packaged HAZMAT labels and markings.
- Beware of moving vehicles and container yard equipment. Use safety cones and/or triangles to alert traffic of your location/operation.
- Use your judgment and senses when approaching any container. Visible leakage, detectable odors, or audible sounds may help identify the presence of problems relating to hazardous materials. If visible leakage is found, avoid contact of any type and initiate immediate action to mitigate the situation by keeping yourself and other people away from the container and notifying emergency response personnel and appropriate carrier and shipper personnel who have the capability to resolve the problem.
- Record substances that you may have been exposed to on your current Occupational Exposure History, CG-5447 (available in Adobe Forms).

## **CASUALTY INVESTIGATIONS**

Sector Delaware Bay Marine Investigators may encounter many of the hazards addressed throughout this instruction. Therefore unit personnel conducting marine casualty investigations shall follow the SWPs as deemed appropriate for the situation (i.e., General Safety Precautions, Boat Operations, Confined Space Entries, etc.)

### **Additional Information**

- Use Casualty Interview Form to gather data on casualty.
- Obtain information on circumstances surrounding the casualty, cargoes and damage prior to responding. Prior to departing for scene, attempt to arrange rendezvous with subject vessel, especially if response is necessary in remote location.

**NIGHT RESPONSE** - If in remote area with an obstructed view or low visibility, radio vessel to shine searchlight in the air. Follow the light to the rendezvous point.

- Two person response at night for personal security
- Wear PPE
- Carry a Class I Division I Explosion Proof flashlight that is fully operational. Include backup flashlight in response kit.

**SWP # 500 & 520**  
**SPILL POLLUTION RESPONSE/INVESTIGATIONS**

**Risk to You**

- Unknown spilled product and unknown quantities.
- Vapor accumulation may be explosive or flammable.
- May be poisonous if inhaled or absorbed through skin.
- Chemical products may present unique hazards.
- Treat Gasoline like a chemical product due to its benzene, toluene, xylene, and other “light ends” content also keeping in mind that there is a significant fire/explosive risk when dealing with gasoline.
- Crude oils and other petroleum products contain a range of hazards such as benzene, toluene, and xylene. The heavy ends contain polycyclic aromatic hydrocarbons, including benzo-a-pyrene, which causes skin cancer. Sunlight has a synergistic effect with benzo-a-pyrene and increases the risk of skin cancer. Benzene is a known human carcinogen, and some of the other “light ends” may cause cancer, but there is not enough data to assess the risk conclusively.
- Crude oils and other petroleum products may also contain hydrogen sulfide, which can be lethal at relatively low levels, and is insidious because it dulls your sense of smell. You may smell its characteristic rotten-egg odor initially, and then not smell it. This may lull you into thinking that the hazard is gone when it is actually present at hazardous, even lethal levels.
- Treat crude oils like a chemical product due to these hazards.
- Vapor or liquid contact may burn eyes and skin.
- Skin contact with heavy ends (e.g., No. 6 oil, crude oils) may cause skin cancer.
- Possible heat or cold stress if improperly clothed.
- Slip, trip, and fall hazards depending on spill site.
- Contaminated water fowl may throw off oil
- Snakes in some parts of Sector Delaware Bay AOR
- Remote areas that present physical security risks

**Safe Work Practices**

- Read MSDS/CHRIS/ACGIH TLV/NIOSH POCKET GUIDE if product is known.
- Use buddy system.
- Treat abandoned drums as an unknown chemical spill. Stay upwind and do not attempt to move the drum. Coordinate with local law enforcement to protect the public from the drum until a properly equipped response contractor arrives to remove it.
- Wear proper clothing for weather/temperature/environment.
- Wear chemical protective gloves (nitrile) for sampling.
- Wear leather gloves for abrasion hazards that don’t involve chemical or oil exposure.



- Wear chemical protective goggles when product splash/spray is possible.
- Wear safety glasses where flying objects pose a hazard.
- Wear PFD as required.
- Wear sunscreen if daytime.
- Bring portable communications. Remember that cell phones are not intrinsically safe.
- Use your earplugs if you need to raise your voice to communicate.
- Wear your whistle in case you fall in the water or become injured and are unable to move.
- Wear appropriate footwear for hazards [Safety shoes unless they would ruin the surfaces you are walking on (e.g., teak deck on a recreational vessel)]. Wear chemical protective boots if you might contact liquid product. Be aware that if you contact liquid product with your feet, you may no longer be in the COLD ZONE (See below).
- Stay in the COLD ZONE. Require the responsible party to conduct air monitoring to determine the COLD ZONE for chemicals and petroleum products containing benzene or hydrogen sulfide. If the product will dissipate before air-monitoring equipment will arrive on scene, forgo sampling, stay up wind and document the spilled product with photographs. Also stay well upwind while waiting for air monitoring equipment to arrive.
- Carry EEBA on person if area is site of chemical spill or poses risk of other sudden change in atmosphere.
- Wear hard hat if there is a danger of overhead (such as piping) or falling objects.
- Secure any ignition/spark hazards before entering spill site (Leave cell phones locked in vehicle).
- Bring a Class I Division I Explosion Proof flashlight and a spare in your response kit.
- Wash off any product that contaminates skin or clothing.
- Rest and drink fluids frequently during hot weather.
- Minimize stay-time as much as possible; plan your activities.
- Familiarize yourself with the Site Safety Plan and any Safety Bulletins (large, unit-wide response action).
- Avoid handling oiled birds. Report their location to wild fowl experts.
- Avoid all wildlife. Seek emergency medical attention immediately if you are injured by wildlife.
- Leave if you feel the area you are in is not safe.
- Record substances that you may have been exposed to on your current Occupational Exposure History, CG-5447 (available in Adobe Forms).

Pollution Investigators need to be on the lookout for any unsafe practices going on during the cleanup. All unsafe practices should be reported immediately to the cleanup contractor's site supervisor for correction. They should also be relayed back to the Unified Command, which will take action to share these reports with all parties and

ensure the same unsafe practices are prevented from happening again. Likewise, all on-site injuries should be reported immediately to the Unified Command.

**Pollution Response Hotline Numbers**

NRC (800) 424-8802

CHEMTREC (800) 424-9300

ATSDR (Acute Exposure to HAZMAT) (404) 498-0120

CDC Emergency Ops Center (Public Health Issues) (770) 488-7100 OR 800-232-4636

U. S. EPA Region I (888) 372-7341 (617) 918-1111

U. S. EPA Region III (800) 438-2474 (215)814-5000

U. S. EPA Region IV (404) 562-8700

U. S. EPA Region V (800) 621-8432 (312)-353-2000

U. S. EPA Region VI (214) 665-2222

U. S. EPA Region VII (913) 281-0991

U. S. EPA Region VIII (800) 227-8917 (303) 312-6312

**Primary Response References**

- CHRIS Manual I
- CHRIS Manual II
- DOT Emergency Response Guidebook for Initial Response to Hazardous Materials Incidents (ERG)
- HAWLEY'S Condensed Chemical Dictionary
- ACGIH Threshold Limit Values and Biological Exposure Indices
- NIOSH Pocket Guide to Chemical Hazards
- SAX - Dangerous Properties of Hazardous Materials
- Hazardous Chemical Desk Reference
- NFPA Hazardous Materials Handbook
- MERCK Index

## **VESSEL INSPECTIONS**

### **TESTS OF FIXED COMPRESSED GAS FIRE EXTINGUISHING SYSTEMS**

#### **Risks to You**

- ASPHYXIATION due to accidental discharge of extinguishing agent in control room or in protected space, such as engine room.
- Accidental discharges are always possible if supply bottles are not disconnected from piping. Some low-pressure systems cannot physically be isolated from the main extinguishing agent reservoir, thus placing too much reliance on stop valves to prevent flooding of spaces.
- Accidental release of gas in any space could harm anyone in that space.
- Vessel representative may incorrectly expect inspector to direct servicing and testing.
- Test of compressed gas systems may conflict with other vessel activities and present risks to personnel not involved with the tests.
- Lack of communication between all involved with testing can lead to unsafe practices during test.
- Lack of familiarity with compressed gas extinguishing agents can result in confusion over responsibility and lead to unsafe situations.

#### **Safe Work Practices**

- Inspector should ensure vessel representative directs test of compressed gas system. Inspector will refuse to witness test if safety hazards are recognized or there is a lack of compliance with regulations.
- No tests will be witnessed unless a vessel representative is present.
- Inspector will review a written test procedure with the testing supervisor and vessel representative prior to any tests. This review should be conducted at least one day before the test.
- The system should be pre-tested and all problems corrected before the inspector arrives to witness the final test.
- Inspector will remain outside spaces supplied by the extinguishing agent. Audible alarms will be checked by listening from outside the space.
- Inspector will not witness any tests of low-pressure systems that cannot physically be isolated (stop valves are not adequate isolation) from the main extinguishing agent reservoir, unless all personnel evacuate spaces supplied by the extinguishing agent prior to the test. Deaths of CG and civilian personnel have occurred due to this problem.
- Constant communications should be maintained between all testing personnel. Communications should be tested to the satisfaction of the inspector before the system test starts.
- The inspector will carry an EEBA and an oxygen meter while in the compressed gas extinguishing system control rooms.

- For high-pressure systems, cylinders must be physically isolated (line from each cylinder disconnected) from the piping before any test will take place. Test charge should be of proper quantity to sound alarms and activate any control valves, ventilation and engine cutoffs.

## **BOILER INSPECTIONS**

### **Risk to You**

- Burns from super heater steam generated during operational tests
- Chemical exposure from cleaning operations
- Injury from tube bursting during high pressure hydro test
- Burns from contact with hot equipment
- Asphyxiation from oxygen deficiency
- Dust particles
- Heat stress
- Noise

### **Safe Work Practices**

- Always wear hardhat, safety glasses, leather gloves, and long sleeve coveralls when conducting inspections. Wear earplugs or earplugs with earmuffs in noisy environments.
- Ensure all boilers on vessel are out of service and cold prior to conducting any internal inspections.
- Conduct function check and carry personal oxygen alarm during all internal exams.
- Ensure two accesses to the steam/mud drum are open prior to internal examination.
- Treat internal inspections as confined space entry (Marine Chemist Certificate not required); require proper venting and demand an escort.
- Ensure entire crew is aware of operational test when testing boiler safety relief valves.
- Stand a minimum of 15 feet from boiler while pressure is building up to lift safety relief valves.
- Ensure pressure on the boiler is reduced to ensure safety of the marine inspector before sealing the relief valve.

SWP # 110  
**HOLDING TANK INSPECTIONS**

**Risks to You**

- Oxygen deficiency
- Chemical exposure to hydrogen sulfide and methane gases produced by anaerobic bacteria.
- Bacterial Infection
- Slipping/Falling

**Safe Work Practices**

- Require space be thoroughly cleaned and disinfected.
- Require space be certified safe by a Marine Chemist.
- Require vessel representative provide an escort.
- Visually inspect area in way of tank for leakage of previous content.
- Visually inspect tank from access for cleanliness prior to entry.
- Always wear disposable coveralls over outer garment when entering a tank and dispose of them immediately after use.
- Wear disposable gloves
- Ensure up-to-date on vaccinations (Hepatitis A, B).

## **ANCHOR BRAKE AND WINDLASS INSPECTIONS**

### **Risks to You**

- Beware of parting chain during test
- Inhalation of chain dust
- Hazard of falling while witnessing test
- Slip hazards
- Trip hazards around anchor chain
- Hazards of mooring line parting while on forecastle

### **Safe Work Practices**

- Wear standard PPE, including a hard hat, safety glasses, safety shoes, leather gloves, sunscreen, and earplugs if you have to raise your voice to communicate.
- CG personnel do not conduct test, they witness the vessel's crew conduct the test.
- Be aware of trip hazards and footing.
- Consider the result of every action. Stand in best place to avoid particles and dirt flying off chain as it pays out.
- Avoid the bites of lines.
- Ensure safety lines and rails are in place.
- Be aware of surroundings and potential dangers.
- Avoid complacency.

## **PRESSURE TESTS OF PIPING AND TANKS**

### **Risks to You**

- Piping under pressure always presents a threat of immediate, rapid release of pressure. Gases, including air, held under pressure present a greater risk than liquids under pressure because liquids do not compress like gases. Liquids under a given pressure will experience a very small volume expansion compared to that of a gas when the pressure is released. Should the pressure release unexpectedly (i.e., through a pipe or valve failure), a relatively small amount of liquid spray will be released as the pressure drops dramatically. Gases, on the other hand, will show a large volume release which could be catastrophic if that release is forced out at a high flow rate (and a resulting large force) through a small opening, such as a crack, valve, or ullage opening.
- Liquids released under pressure will spray large distances. Should the liquids be flammable, spreading them out in a fine mist increases danger of explosion and associated fire.

### **Safe Work Practices**

- Inspect outside of all pipes prior to start of pressure test. Check for obvious wastage, unsatisfactory gaskets, incorrectly mounted valves, etc.
- High-pressure tests on tanks or piping should always be done with a liquid instead of a gas (air). Air tests at low pressures (less than 1.5-2.0 psig) to check repairs to tanks and void spaces are commonly carried out.
- Verify that valves and fittings are suitable for the testing that will be conducted (i.e., 300 psi valve for 300 psi service).
- During any pressure test, always stay back from piping or tank openings while the pressure is being elevated. Once at the desired pressure, pause for several minutes before moving forward to conduct the inspection.
- During tests, stay clear of any attached flexible hoses or couplings that could snap back should they come free or part. Avoid standing near vents, valves, tank openings, etc., which may be the most likely places to have gas or liquid leak out.
- When inspecting air tests of welds around tank domes/hatch covers, avoid standing behind a hatch (hinge side).



## **SHIPYARD HAZARDS**

### **ACTIVITIES NEAR SHIP CONSTRUCTION AREAS (WELDING AND CUTTING)**

#### **Risks to You**

- Inhalation of welding fumes containing heavy metal aerosols, ozone, oxides of nitrogen can lead to lung damage.
- Second and third degree skin burns.
- Temporary and permanent eye damage through flash burns.
- Skin lacerations and punctures.
- Explosions resulting from ignition of leaking welding gases or residual flammable cargo/fuel vapors.

#### **Safe Work Practices**

- Avoid inspecting repairs while welding is underway in the vicinity. Recall that Sector Delaware Bay personnel are not authorized to enter confined spaces while welding is being conducted unless it is done in accordance with SWP # 111 of Marine Safety Manual Volume 1, Chapter 10, Appendix A.
- Even if the area is not a confined space, ensure area is being properly ventilated of welding fumes before entering.
- Avoid direct contact with hot metal.
- Avoid looking directly into the welder's arc.
- Be aware of surroundings and potential dangers.
- Avoid complacency.
- Wear standard PPE.

#### **Additional Information**

- Be aware that prescription glasses may inadvertently refract welder's arc

## **ACTIVITIES NEAR SHIP CONSTRUCTION AREAS (FIBERGLASS DUST/FUMES)**

### **Risks to You**

- Inhalation of airborne fiberglass—which may be a human carcinogen
- Inhalation of resin fumes which may be toxic
- Temporary and/or permanent eye damage through contact
- Skin irritation through contact with fiberglass
- Chemical reaction between resins and catalyst create significant heat; resins may spontaneously combust.

### **Safe Work Practices**

- Avoid inhalation of airborne fiberglass
- Avoid skin contact with fiberglass
- Avoid skin contact with resin
- Avoid inhalation of resin fumes
- Ensure adequate ventilation
- Wear PPE (leather gloves, goggles, and long sleeve coveralls)
- Rinse with cool water prior to departing the job site (Don't scrub!).
- Do not leave unused resin mixed with catalyst in containers - have construction personnel spread out mixture to harden and properly dispose.

## **ACTIVITIES NEAR SHIP CONSTRUCTION AREAS (ABRASIVE BLASTING AND PAINTING)**

### **Risks to You**

- Silicosis or other diseases caused by inhalation heavy metals, quartz, and other particulates. All blasting agents should be considered a health hazard. Even newer blasting agents such as copper slag pose health risks.
- Physical harm from direct contact with sandblast.
- Inadvertent contact through paint over-spray and absorption of paint solvents through skin contact.
- Inhalation of paint vapors and their carrier solvents which can be both chronic and acute hazards.
- Paint vapors in confined or enclosed spaces may create explosive conditions.
- Temporary and permanent eye damage through physical contact with grit or paint.

### **Safe Work Practices**

- Avoid all blasting and painting areas while work is being conducted
- Be aware of surroundings and potential dangers
- Avoid complacency
- Wear standard PPE
- Avoid entering spaces where paint or cleaning solvents are being used or applied. Check for proper ventilation if recently painted. Require spaces to dry and then achieve at least three air changes with forced mechanical ventilation prior to entry. If the space is a confined space, also follow the appropriate SWP for confined space entry.

SWP # 200  
**DRYDOCK EXAMINATIONS**

**Risks to You**

- Hazard of falling from scaffolding while witnessing tail shaft and propeller NDT.
- Hazards of falling objects in dry-dock basin.
- Slip hazards while internally examining sea chest.
- Trip hazards while inspecting ranged anchor chain.
- Shifting load of T-boat on marine railway.
- Potential for injury while examining T-boat shaft clearance (skin cuts).
- Foot and hand injury from sharp fastenings protruding from vessel's hull and dry-dock floor.

**Safe Work Practices**

- Be aware of trip hazards and footing.
- Consider the result of every action.
- Be aware of surroundings and potential dangers.
- Wear PPE, including safety toed, steel shank boots, oxygen clip, leather gloves, hardhat, coveralls, safety glasses, and earplugs if you have to raise your voice to communicate.
- Avoid complacency.
- Ensure safety lines and rails are in place. Wear safety belt when riding in motorized lift to conduct hull inspection, or anytime personnel are six feet above surface.
- Ensure adequate staging in place.
- While inspecting pulled tail shaft, in shaft alley, ensure load does not shift.
- Step carefully to avoid injury hazards on the dry-dock floor or ground under the railway.
- Ensure vessels are properly blocked, and ensure measures are in place to protect movement/slippage of blocking scheme (particularly in small boat yards).

## **OFFICE SAFETY**

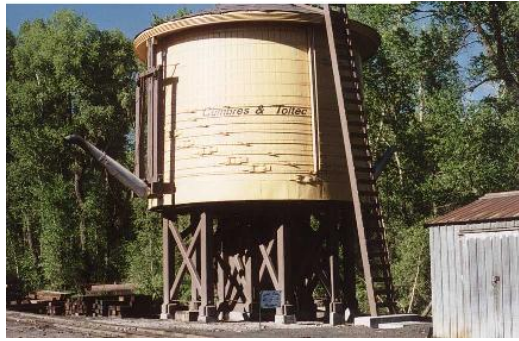
### **Risks to You**

- Electric Shock from improperly grounded or plugged-in appliances.
- Fire or burns from hot appliances (coffeepots) left on too long.
- Muscle strain from lifting heavy boxes or furniture.
- Falls from stools or ladders.
- Injury during improper evacuation of building during fire drills.
- Personal Security Threats.
- Slips/trips/falls from equipment/cords not properly stowed.

### **Safe Work Practices**

- Turn off office electrical equipment (typewriters, radios, copier) when departing for the day.
- Turn off any coffeepots when not in use.
- Beware of stacking unstable items too high (boxes, etc.).
- Use only stepladder or device designed for standing on when reaching for items too high to reach from the floor.
- Lift with your legs, not with your back; don't attempt to lift too much weight; use hand trucks to move boxes from one location to the next.
- Keep floor electrical outlet covers in place to prevent chair legs from falling into these holes or tripping people.
- Run electrical cords around edges of room and under furniture so they do not present tripping hazards.
- Beware of walking with sharp objects (may be hazard to others).
- Be alert to building fire evacuation procedures.
- Become familiar with fire extinguisher locations and trained to use them.
- Ensure electrical power strips are UL listed as (1) surge protectors, if sensitive electronic equipment must be protected; or (2) portable power taps, if higher amperage equipment such as coffee pots, microwave ovens, copiers are to be connected.
- Do not "daisy chain" power strips (connect 2 or more together).
- Do not permanently mount (requiring a tool to remove) power strips.
- Know building security phone number.

## SHORE POTABLE WATER



Ref: (a) Water Supply and Wastewater Disposal Manual, COMDTINST M6240.5.  
(b) Manual of Naval Preventive Medicine, NAVMED P-5010, Ch 5, 6, & 7.

1. **GENERAL.** One of the most significant environmental health threats to a unit's operational readiness is having inadequate or contaminated supplies of potable water. Potable water systems must be managed to provide adequate supplies of potable water for human consumption and culinary purposes. Few environmental factors affect an individual's well-being more than an adequate supply of potable (drinkable) water.

### 2. **POLICY STATEMENT.**

- a. Sector Delaware Bay and all subunits that operate or maintain potable water systems including units that only store or treat potable water must develop a site specific written potable water operation and maintenance program. The program must include all information required by their state regulatory authority and U.S. Environmental Protection Agency (EPA). At a minimum the following program elements should be included: operations, maintenance, training, water monitoring, recordkeeping, emergency procedures, and safety.
- b. All Sector Delaware Bay and subunit owned or operated potable water systems must be classified in accordance with EPA rules. Coast Guard potable water systems meeting the EPA definition for a public water system must follow National Primary Drinking Water Regulations (NPDWR) and other applicable requirements established by the state regulatory authorities to conform to the Safe Drinking Water Act (SDWA). Coast Guard potable water systems not classified as public water systems must follow the requirements of reference (a). Additional water system information is addressed in reference (b)

<b>Potable Water System Classification</b>		
Classification	Connections/ People Served	Examples
<b><u>Public Water Systems</u></b>	15 service connections or 25 people for at least 60 days per year	
<b>1. Community Water System</b>	15 service connections or 25 people served year-round	Residences, UPH's,
<b>2. Non-Community Water System</b>	A public water system that serves the public but does not serve the same people year-round.	
<b>a. Non-Transient Non-Community</b>	Public Water System serving 25 of the same people at least 6-months, but not year-round.	Schools, factories, office buildings, and hospitals
<b>b. Transient Non-Community</b>	Public Water System where people do not remain for long periods of time.	Gas stations and campgrounds
<b><u>Private Water Systems</u></b>	Systems with fewer than 15 service connections or serving less than 25 people	Small units with wells

- c. All units with potable water systems shall designate water system operator(s). All public water system operators are required to be trained in accordance with their state regulatory agency requirements and reference (a). Operators of non-public water systems must demonstrate a thorough knowledge of potable water system operations and maintenance. Units shall train and maintain at least one operator even if routine maintenance is provided by a third-party contractor. This will enable the unit to evaluate the service by outside contractors and enable the unit to respond to issues quickly when problems arise.
- d. A evaluation of potable water systems will be conducted by MLC (kse) during regular assistance visits. This survey will include a comprehensive administrative review, sampling, thorough visual inspection of the complete water system, and evaluation of the operator's knowledge.
- e. Contact the MLC (kse) for assistance or additional information.

## **POSITION ASSIGNMENTS**

1. **GENERAL.** This section identifies the persons filling each required position. All personnel listed are also the members of the Safety Committee.
2. **POSITIONS.**
  - a. Sector Delaware Bay Safety Officer: CAPT T. Harrop
  - b. Sector Delaware Bay Safety Manager: LTJG J. Byar
  - c. Asbestos Control Coordinator: LT H. Hurst, D5 SEHO
  - d. Hazardous Communications Coordinator: DCC T. Stryminski
  - e. Respiratory Protection Coordinator: MST1 N. Brophy
  - f. Occupational Medical Surveillance and Evaluation Program Coord: HS1 R. McCormes
  - g. Prevention Department Safety Coordinator: LTJG E. Taylor
  - h. Prevention Dept. Facilities/Containers Safety Coord: MST3 B. Bennett
  - i. Prevention Dept. Port St. Control Safety Coord: MST3 D. Groom
  - j. Prevention Dept. Domestic Insp. Safety Coord: MSS2 T. Dudley
  - k. Response Department Safety Coordinator: MSTC R. Braucci
  - l. Response Department MAHR Safety Coord: MST3 E. Mercado
  - m. Planning Department Safety Coordinator: BM2 R. Frantz
  - n. Logistics Department Safety Coordinator: HS1 R. McCormes
  - o. USCGC CAPSTAN Safety Coordinator: BMC R. England
  - p. USCGC CLEAT Safety Coordinator: BM1 J. Long
  - q. USCGC FINBACK Safety Coordinator: BMC S. Yonushonis
  - r. USCGC IBIS Safety Coordinator: BM1 J. Cross
  - s. USCGC MAKO Safety Coordinator: BMC J. Kehoe
  - t. STA Philadelphia Safety Coordinator: BM1 C. Lawler



- u. STA Atlantic City Safety Coordinator: BMC S. Boone
- v. STA Manasquan Safety Coordinator: BMC K. Seebeck
- w. STA Barnegat Safety Coordinator: BMC C. Wright
- x. STA Cape May Safety Coordinator: BMC C. Salls
- y. STA Indian River Safety Coordinator: BM1 R. Petrillo

## **SAFETY AND ENVIRONMENTAL HEALTH POLICY STATEMENT**

The Coast Guard has operated in a complex maritime environment for more than 200 years, exercising our unique authorities while deploying a broad range of capabilities to guarantee U.S. maritime safety, security and stewardship. We are a military, multi-mission, and maritime service committed to ensuring the safety and environmental health of the public we serve as well as our own people. Superior mission execution is our primary objective. A vital condition of successful mission execution is the safety and environmental health of our people and the equipment they are entrusted with operating. Without it, we endanger our people and jeopardize the mission.

Successful mission execution begins with a thorough understanding of the environment in which we operate. Based on that understanding, we employ tested operational concepts, acquire and employ equipment suitable for the mission, and ensure our people have adequate training and education needed to do their jobs. We build on that foundation by conducting continuous drills and exercises, by improving our personal skills, and by maintaining our equipment at the highest state of readiness. In short, consistently successful performance requires thorough preparation.

The Coast Guard's fundamental safety and environmental health principle, applicable at every level in the organization for every mission or activity, is to continually manage the safety and environmental health risks confronting Coast Guard personnel in their professional and private lives. While we cannot reasonably remove all levels of risk inherent in our daily operations, we can strive to reduce those risks to keep them within acceptable limits. Unnecessary risks, however, have no place in the workplace or our daily lives. This principle is applied by identifying potential hazards, assessing the risks associated with those hazards, and controlling risks to acceptable levels, consistent with the mission or activity being performed. Reducing risks protects individual members while reducing fatalities, the incidence of injury and disease, and the loss of property, ultimately preserving mission readiness.

Every commanding officer, officer-in-charge, and supervisor is responsible and accountable for ensuring that effective safety risk management principles are incorporated into the planning and execution of every evolution and activity. Each member of the Coast Guard has a personal responsibility for effectively managing risks associated with their own activities, both on and off duty, and to safeguard themselves, their families and their fellow workers from harm. These responsibilities cannot be delegated and must not be compromised.

Sustaining superior mission execution requires that we all employ safe tactics and doctrine to preserve the health and safety of our personnel. I charge each of you with joining me in honoring this commitment.



**THAD W. ALLEN**  
Admiral, U.S. Coast Guard  
Commandant



## Occupational Safety and Health Protection For Members of the United States Coast Guard

The Occupational Safety and Health Act of 1970, Executive Order 12196 and 29 CFR 1960 require the heads of Federal agencies to furnish to members places and conditions of employment that are free from job safety and health hazards. Commandant Instruction M5100.47, Safety and Environmental Health Manual, incorporates Federal safety and health standards and establishes the safety and health program for the Coast Guard.

### Coast Guard Responsibilities

#### 1. General Requirements

The Coast Guard will furnish its members places and conditions of employment that are free from safety and health hazards.

#### 2. OSHA Regulations

The Coast Guard will comply with regulations of the Occupational Safety and Health Administration (OSHA), where applicable.

#### 3. Reporting Hazards

The Coast Guard will respond to member reports of hazards in the workplace.

#### 4. Workplace Inspections

The Coast Guard will ensure that each workplace is inspected at least annually for hazardous conditions. The Coast Guard will post Notices of Unsafe or Unhealthy Working Conditions found during the inspections for a minimum of three working days, or until the hazard is corrected, whichever is later.

#### 5. Correction of Unsafe Conditions

The Coast Guard will take prompt action to assure that hazardous conditions are eliminated. Imminent danger conditions will be corrected immediately.

#### 6. Safety and Protective Equipment

The Coast Guard will acquire, maintain and require use of appropriate protective and safety equipment.

#### 7. Safety and Health Training

The Coast Guard will provide applicable occupational safety and health training for members.

#### 8. Management Information System

The Coast Guard will set up a management information system to keep records of occupational mishaps, injuries, illnesses and their cause, and will post annual summaries of illnesses and injuries for a minimum of 30 days.

#### 9. Reporting Mishaps, Injuries and Occupational Illnesses

In accordance with COMDTINST M5100.47, supervisors must submit a mishap report for all work-related mishaps, including injuries or occupational illnesses, experienced by members under their supervision.

#### 10. Safety and Health Committees

The Coast Guard will support safety and health committees that are formed in accordance with COMDTINST M5100.47.

### Member Responsibilities

#### 1. Compliance with Standards

Members shall comply with all Coast Guard occupational safety and health standards, policies and directives. In the absence of Coast Guard occupational safety and health standards, policies and directives, OSHA standards will apply.

#### 2. Safety and Protective Equipment

Members shall use appropriate personal protective equipment and safety equipment provided by the Coast Guard.

#### 3. Reporting Hazards

Members shall report hazardous conditions, injuries, illnesses and other mishaps promptly to their supervisor or to the Unit Safety Coordinator.

### Rights of Members and Their Representatives

#### 1. Participation in Safety and Health Program

Members and their representatives shall have the right to participate in the Coast Guard Safety and Health Program. Members shall be authorized official time for these activities.

#### 2. Access to Records and Documents

Members and their representatives shall have access to copies of applicable OSHA and other recognized standards and regulations; Coast Guard safety and health policies and directives; and Coast Guard mishap, injury and illness statistics.

#### 3. Reporting Hazards

Members and their representatives shall have the right to report unsafe or unhealthy working conditions to appropriate officials and to request an inspection of the workplace. The name of the member making the report will be kept confidential if requested.

A Member Hazard Report form can be found at the Health & Safety Division section of either MLC's website.

#### 4. Freedom from Fear of Reprisal

Members and their representatives are protected from restraint, interference, coercion, discrimination, or reprisal for exercising any of their rights under the Coast Guard Safety and Environmental Health Program.

### Responsible Officials

The Designated Agency Safety and Health Official (DASHO) for the Coast Guard is the Chief of Staff (G CCS).

The Unit Safety Coordinator for this workplace is:

LTJG Jonathan Byar

He or she may be contacted at

215-271-4963

(Telephone and location)

### Further Information

How well individual Coast Guard members carry out their safety occupational and health responsibilities is a critical element in the success of the program.

This notice highlights the Coast Guard member safety and occupational health program. More information about the Coast Guard program or its standards and procedures may be obtained from the Unit Safety Coordinator.



*Thad W. Allen*

THAD W. ALLEN  
Admiral, U. S. Coast Guard  
Commandant

